CHAPTER 4

KEYNESIAN, OLD KEYNESIAN, AND NEW KEYNESIAN WAGE NOMINALISM

Wage nominalism has long been a puzzle for economists. The original Keynesian explanation related it to a coordination failure in the context of decentralized union bargaining, a problem now in a largely nonunion U.S. labor market. Moreover, Keynesianism assumed wage nominalism as the norm rather than explaining it. New Keynesian explanations, based on implicit contracts, menu costs, and other innovations still do not explain wage nominalism.

Although Keynesian theory and its derivatives have many facets, wage determination plays a very important role. Keynesians, old and new, emphasize nonclearing behavior in the labor market, which essentially means that the wage-setting mechanism is somehow impeded from setting demand = supply. In contrast, other approaches to macroeconomics, such as the real business cycle approach, are less apt to assume that labor markets fail to clear or that flexibility in wage setting is a major issue.

Keynesian theory is also likely to stress nominal wage (and now price) setting, rather than real, as an engine in business cycles and as a route toward policy activism. Thus, the debate in the late 1970s and early 1980s on whether European unemployment was "Keynesian" or "classical" involved the question of whether—in the latter case—European real wages had become rigid, thereby preventing demand-expanding policies from lowering unemployment (Sachs 1983; Bruno and Sachs 1985). "Wage nominalism"—defined as a seemingly undue[1] emphasis by wage setters on the nominal (rather than the real) wage—remains a key phenomenon in Keynesian theory and its offshoots.

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This paper suggests that past and current explanations of wage nominalism are deficient. Keynes's original explanation of wage nominalism—consisting mainly of asymmetric[2] resistance to nominal wage cuts—dealt with a coordination failure inherent in decentralized wage bargaining and relied heavily on collective bargaining institutions. Today, this reliance on unions poses a problem since a relatively small fraction of the workforce is covered by bargaining. Moreover, even given a bargaining economy, the Keynesian model assumes nominalist institutions rather than *explains* their existence—a characteristic shared by more recent work.

Keynesian scholars after World War II were less interested in wage cuts than in the sluggish response of nominal wage increases to demand variations and inflation. They were still concerned with coordination failures, hence their interest in wage/price guidelines as coordinators. But the approach of these old Keynesians was often atheoretical and, thus, like Keynes, failed to explain wage nominalism.

New Keynesians have introduced new concepts—such as implicit contracts, menu costs, hiring tolls, efficiency wages, and insider-outsider conflict—to explain anomalous wage behavior, but they are better at explaining real rigidities than nominal (Gordon 1990; Ball, Mankiw, and Romer 1988; McCallum 1986), and, following Keynesian tradition, focus on union bargaining. In short, these newer Keynesian models still lack a satisfactory explanation for wage nominalism in the labor market.

This difficulty may account for a shift to studying the product market (Mankiw 1988). Yet recent evidence from employer and worker surveys still only documents the existence of—and does not explain—wage nominalism. Thus, an explanation is needed that encompasses *both* labor and product market behavior.

A promising avenue is the old, pre-Keynesian approach based on the Irving Fisher (1928) notion of "money illusion," where wage nominalism is part of a larger phenomenon. The type that concerned Keynes—resistance to nominal wage cuts—and the type that has concerned old and new Keynesians—wage and price sluggishness—are both inherent features of an economy using money as the standard of value.

THE EMPIRICAL SIDE OF WAGE NOMINALISM

Most economists would accept Krugman's (1990) diagnosis of the virtues of devaluation in the situation he posits:

> Suppose...there is a sharp drop in worldwide demand for goods made in Britain. To cope with such a shock, Britain must...make its goods cheaper.... The only quick way to do this is to reduce British wages,... But how can all British wages be reduced quickly? In the face of sustained high unemployment, workers might be persuaded to accept lower wages.... But the economic and social cost of reducing wages by, say, 15% would be huge. In contrast, a 15% devaluation of the pound...would accomplish the same thing instantly and almost painlessly. (D2)

This diagnosis assumes that workers cannot be readily "persuaded" to accept reductions in nominal wages; it also assumes that they will take action to prevent such reductions. But workers will accept the same adjustment in real terms *if* it is hidden from them by means of a monetary manipulation.

Krugman's analysis belongs to a long tradition of modeling wages on *bargaining* and of assuming a decentralized union bargaining process as the basis for wage setting, agreeing with Keynes (1936):

> [S]ince there is, as a rule, no means of securing a simultaneous and equal reduction of money-wages in all industries, it is in the interest of all workers to *resist* a reduction in their own particular case. In fact, a movement by employers to revise money-wage *bargains* downward will be much more strongly *resisted* than a gradual and automatic lowering of real wages as a result of rising prices. (264; emphasis added)

Moreover, Keynes continues, economic policy should aim at a "stable general level" of nominal wages, "provided that equilibrium with the rest of the world can be maintained by fluctuating exchanges" (270). In other words, devaluation is preferable to an attempt to bargain equivalent nominal wage cuts, precisely the modern Krugman position.

Is there empirical support for resistance to nominal wage cuts? Table 1 covers two periods in the post-World War II era in which U.S. wage inflation was comparatively low and labor markets relatively soft for extended periods: the early 1960s and the 1980s. The table shows the lower tail of nominal wage settlement distributions in the major union sector. The figures for all private industries are somewhat distorted by the presence of escalator clauses.[3] To avoid the escalator effect, I present data from the construction industry, a sector in which wage escalation is unusual. Unfortunately, comparable construction data are not available for the earlier period.[4]

Table 1. First-Year Adjustments under Private Major Union Agreements[a]

	All Industries			Construction			
Year	*Median wage adjustment (%)*	*% of workers with wage decreases*	*% of workers with no wage change*	*Average wage adjustment (%)*	*% of workers with wage decreases*	*% of workers with no wage change*	*Median real effective wage change (%)b*
1959	3.9	*	3	n/a[c]	n/a	n/a	+1.8
1960	3.2	*	4	n/a	n/a	n/a	+1.9
1961	2.8	*	8	n/a	n/a	n/a	+2.0
1962	2.9	*	22	n/a	n/a	n/a	+1.5
1963	3.0	*	25	n/a	n/a	n/a	+1.3
1964	3.2	*	5	n/a	n/a	n/a	+1.7
1965	3.8	0	4	n/a	n/a	n/a	+1.5
1982	3.7	2	42	6.5	5	10	+2.8
1983	3.7	15	22	1.5	12	44	+0.9
1984	2.2	5	18	0.5	15	37	−0.1
1985	2.3	3	33	1.5	7	31	−0.3
1986	1.9	9	21	2.2	1	30	+1.6
1987	2.8	4	23	2.9	2	21	−1.1
1988	2.4	2	20	2.2	4	23	−1.5
1989	3.5	1	8	2.8	2	8	−1.3

Source: U.S. Bureau of Labor Statistics, *Current Wage Developments*; U.S. Bureau of Labor Statistics, *Monthly Labor Review*, various issues.

*Less than 0.5 percent.

a. Major agreements are those covering 1,000 or more workers.

b. Calculated using the official Consumer Price Index (CPI-U during 1982–87).

c. Not available.

Table 1 shows that nominal wage cuts were quite rare in the early 1960s, despite the low central tendency of the wage change distribution. While the typical union worker received real wage gains, a substantial

fraction received wage rate adjustments below the CPI-measured rate of inflation, especially in 1962–63. In those two years, on an effective basis (which includes the effects of escalators and deferred adjustments), about 29 percent and 31 percent, respectively, of workers in the major union sector received a real wage decrease. But the nominal wage change distribution bulged at the zero point, suggesting that while real wage declines were possible, nominal union wage cuts were extremely rare.

During the 1980s, the nominal union wage change distribution also bulged at the zero point—consistent with the notion of asymmetric wage cut resistance. Unlike the 1960s, however, in some years, even the typical union worker received a real wage decrease. Moreover, negative nominal adjustments were more common in the 1980s than in the 1960s, suggesting a decline in—but not evaporation of—union resistance to such wage decreases.

Unfortunately, comparable data do not exist for the 1980s for the nonunion sector, which now covers the vast bulk of the private U.S. workforce. But there is a (now-discontinued) series available for nonunion establishments in manufacturing during the 1960s. This series refers to establishments with a practice of making general wage adjustments (as opposed to discretionary individual merit increases). However, even nonunion establishments that make general adjustments tend also to provide additional individual merit increases. Hence, the proportion of workers reported as receiving zero adjustments is exaggerated; some workers received individual merit increases even if they experienced no general wage adjustment.

Table 2 summarizes the available data for nonunion establishments. Reported nominal wage decreases were rare in the 1960s for union establishments of the period. During periods of low inflation, the nominal nonunion wage change distribution tended to bulge at the zero level although the proportion of workers receiving zeros is exaggerated. There is no way of accurately estimating the true proportion of nonunion workers receiving real wage decreases during this period.

Table 2. Effective General Wage Adjustments in Nonunion Manufacturing Establishments[a]

Year	*Median wage adjustment (%)*	*% of workers with wage decreases*	*% of workers with no wage change*
1959	3.3	*	31
1960	2.5	0	41
1961	1.0	*	46
1962	1.6	0	47
1963	2.8	*	30
1964	2.0	0	44
1965	3.2	0	24

Source: U.S. Bureau of Labor Statistics, *Monthly Labor Review*, various issues.
*Less than 0.5 percent.
a. Includes all those with a policy of making general wage adjustments.

Were nonunion data available for the 1980s, they would probably show lower proportions of nominal wage freezes and cuts than were found in the union sector. Nonunion wage rates generally rose faster than union rates during 1982–89, a mean annual rate of 4.6 percent compared with 3.7 percent for the CPI and 3.4 percent for wage rates in the union sector.[5] However, there were negative real wage rate changes in the nonunion sector in 1987 and 1989, showing that such adjustments are possible for large numbers of nonunion employees.[6]

As for a sluggish wage response to inflation and the business cycle, ample documentation is available. For example, Mitchell and Zaidi (1990) produce a short-term price-inflation coefficient in the U.S. wage change equation of about .8 percent, that is, a 1 percent price increase gives rise initially to only a .8 percent wage increase. These results are typical of those found in many studies, and empirically oriented macroeconomists and forecasters will have little difficulty accepting them descriptively. In short, wage nominalism in both its sluggish and asymmetric resistance forms remains a stylized fact.

WAGE NOMINALISM AND THE KEYNESIAN MODEL OF DECENTRALIZATION

Wage nominalism—especially of the type involving resistance to wage cuts—was given prominence in Keynes's original analysis, and he viewed decentralized bargaining as the cause of nominalism. Norms of fairness were violated because each micro nominal wage cut was also a relative wage cut. Workers' utility functions strongly weighted the ratio of their wages to those of other workers. Bargainers took outside wages as given, and resistance to wage cuts was thus attributed by Keynes to a coordination failure.

Decentralized Bargaining

This tradition of decentralized relative wage comparisons continues to the present. Summers (1988) argues that worker productivity may be geared to cross-sectional equity comparisons; that is, productivity suffers if workers feel they are being paid inequitably compared with other groups. This is a variant of the efficiency wage model discussed below.[7]

Aside from the union/nonunion issue, there is a fundamental objection to decentralization in such models as an explanation of asymmetric wage nominalism. Efficiency wage models that centered on the relative wage may explain forms of wage rigidity, but they are incomplete explanations of asymmetric wage nominalism specifically. To understand this deficiency, consider the following example.

Suppose all wages were tied to the Consumer Price Index (CPI)—"naturally" set in real terms. Suppose further that all workers knew this to be the case. Then any wage adjustment below the rate of increase in the CPI for a particular group of workers would amount to a relative wage cut. Starting from a system of real (CPI-based) wage determination, decentralization would explain *real* asymmetric wage rigidity, not nominal.

Similarly, if all wages were known to be indexed to gold, any employee group taking a wage cut denominated in gold would also be taking a relative wage cut. Starting from gold wages, decentralized bargaining would explain gold wage rigidity. In short, the Keynesian decentralization approach to wage nominalism, even in its modern guise, begs the initial question of why wages are indexed to the monetary unit. Decentralization can be used as a rationale for any form of wage rigidity (nominal, real, gold), *once the standard to which wages are indexed is predetermined.* The key question is how the standard was set, a question which decentralized bargaining does not answer.

This deficiency applies to models other than the efficiency wage type. For example, it is possible to create models in which menu costs seem to combine with decentralization and real rigidities to produce wage nominalism (Ball and Romer 1990). However, under such models, a cost of changing wages is alleged to occur due to decentralized bargaining.

Wage setters assume that when a monetary shock occurs, others will hold nominal wages and prices constant. Any adjustment that the wage setters make would thus alter their real and relative positions—a "cost." Decentralization is again the implicit basis of this assumption, and it again fails to explain wage nominalism.

Consider the following case. Suppose there is an economy in which wages are generally set in real terms. Assume also that there are at least some product markets with flexible pricing, such as those for agricultural goods. Then an assumption of external constancy—I adjust my wage in response to a monetary shock but no one else responds similarly—seems unrealistic.

Wage setters would surely know that when demand increased or decreased, there would be a natural tendency for at least some wages and prices to increase or decrease. A monetary shock would be expected to raise or lower prices in the flexible price sectors, which would then move all nominal wages up or down. These responsive wage changes could be anticipated—since wage setters know that wages are set in real terms and would trigger additional wage increases or decreases. Hence, there should be no costs associated with nominal wage changes in response to monetary shocks despite decentralization. Wage setters in a world of real wage bargaining would assume that other wage and price setters do as they do, that is, raise nominal wages when positive monetary shocks occur and *lower* nominal wages in response to negative shocks.

Reliance on Union Models

Keynesian explanations of decentralized wage determination (and other aspects of wage setting) are often in a bargaining context (Turner 1957; Strotz 1966). It is not surprising that Keynes and other British economists would have relied on union-related practices in forming their ideas about wage setting. In the early twentieth century, British unions generally had a more profound impact on the British economy than their counterparts in the United States. In the 1920s in Britain, a general strike and subsequent stagnation surrounded an attempt to maintain an unrealistically high exchange rate for the pound. Thus, the fact that Keynes's views on exchange rates accorded with those expressed by Krugman above is easily understandable.[8]

With the rise of unionization in the 1930s and 1940s, U.S. institutionalist economists also focused heavily on union practices. In the immediate post-World War II period, labor economists such as Ross (1948) emphasized "coercive comparisons" (pattern bargaining) between workers at different firms as a major factor in wage setting in the union sector, according with the Keynesian emphasis on the relative wage. The relative-wage/union pattern approach was still widely accepted in the 1950s and 1960s.

Even in the 1970s, there remained some justification in the U.S. context for insisting on modeling wage setting in terms of collective bargaining (Weintraub 1978). But by the 1980s, pattern bargaining as a major force in interindustry wage setting was declared dead (Freedman 1982), and the key issue was whether that death had occurred recently or long before (Ready 1990; Mitchell 1990). Since the outlook for private-sector unionization is gloomy (Bronars and Deere 1989), emphasis on wage pattern setting seems progressively unpromising as an approach to general wage determination.

The idea of workers making comparisons with wages paid to other groups is union-oriented. Nonunion employers often do not make known their wage schedules, even to their own employees. While nonunion workers might assume that any nominal wage cut was also a relative wage cut, they would do so only if the labor market was known to be

nominalist. But this "explanation" is insufficient: It explains nominalism by assuming nominalism.

Also disconcerting is the assumption that union bargaining processes inherently bias wage setting toward nominalism. Interjecting a union agent into wage determination could easily pull a modern model toward a prediction of real (rather than nominal) wage stickiness. In such models, the question will inevitably arise as to why union behavior should be linked to nominal variables (Stevenson, Muscatelli, and Gregory 1988). Union officials are, after all, acting for their members. Shouldn't these specialized agents be better informed than their principals about the impact of price inflation on purchasing power?

Indeed, some foreign observers have simply assumed real wage setting by unions in their models (Christofides and Oswald 1989; Rowlatt 1987). U.S. researchers have sought to examine multiyear contracts—deemed a special feature of union wage setting in the United States—as possible sources of nominalism (Taylor 1980; Bils 1989). But the precise impact of contracting depends on how inflation is anticipated, for example, rational expectations and adaptive expectations (Taylor 1983). Empirically, those U.S. union contracts that were escalated—at least through the 1970s—showed signs of successful anticipation of inflation (Mitchell 1980), but nonindexed contracts have exhibited different behavior (Vroman and Abowd 1988).

In any case, it is not reasonable to project union bargaining practices into the nonunion sector. Multiyear contracting in the union sector is linked to the desire to limit strike costs, a motivation with no analogy in the nonunion sector (Jacoby and Mitchell 1982). Nonunion wages are not set over two- or three-year periods; annual wage decisions are the norm. And one-year wage-setting cycles cannot give rise to substantial wage stickiness.

The impact that unionization might have on wage nominalism depends on the form of nominalism that is being modeled. Union officials may better understand the impact of price inflation on purchasing power and, hence, may be more likely to think in real terms in setting wage targets. Sluggish nominalism may thus be avoided in the union sector, at least

where escalators prevail. On the other hand, asymmetric wage nominalism may be fostered since unions can enforce norms of fairness, even if those norms seem irrational to economists or union officials.

Phillips Curve Studies

Probably, the largest single body of evidence on nominal wage setting derives from Phillips (1958) curve literature. Much of the post-1960s theoretical work on wage rigidity and its role in macroeconomics originated with the debate surrounding the empirical and analytical validity of the Phillips curve. The original Phillips curve, which related wage change to unemployment, assumed that the dependent variable should be the nominal wage; in that regard, Phillips built wage nominalism into his relation. While Keynes wrote in an era of deflation—and thus worried about resistance to wage *cuts*—postwar Keynesians who picked up the Phillips curve lived in an inflationary age, in which the sluggish behavior of nominal wage *increases* was the puzzle.

Researchers after Phillips were less nominalist in that they saw price developments as a relevant independent variable determining the nominal wage adjustment. But changes in prices were allowed to compete for statistical significance with other variables measuring profitability, productivity, or union strength. U.S. Phillips curves estimators often couched their explanations of how wages appeared to be set in bargaining language. Some were based on union bargaining (Eckstein and Wilson 1962); others used wage data from the then heavily unionized manufacturing sector, thus tying their results to the union sector.

A need to make the price coefficient in the modified Phillips curve equal to 1, at least in the long run, followed Friedman (1968) and Phelps (1969), who criticized the Phillips curve because of its built-in wage nominalism. A typical approach then became the use of a distributed lag of past inflation (often seen as a proxy for inflation expectations) or some other measure of inflation expectations.[9]

The modern rationale for such distributed lag behavior is generally couched in terms of a difficulty that economic agents have in determining the difference between permanent and transitory shocks (Gertler 1982). Eventually, they realize the full extent to which real wages are eroding; it just takes time. Limited opportunities to revise wages are seen as playing a role in producing price coefficients less than 1 (Christofides 1982). These stories explain temporary departures from rational expectations, but as explanations of wage nominalism, models involving lags and perception problems beg the key problem.

As a technical matter, wages could easily be 100 percent indexed to a broad inflation index and changed very frequently, even in the context of a long-term union agreement. Thus, stories of sluggish perceptions are not complete explanations of sluggish wage nominalism. The CPI is published on a monthly basis with only a one-month lag. No wage setter need anticipate inflation in a world with such a potential for complete indexing. Only in cases of hyperinflation would indexing wages with a one-month lag be inadequate.

Full indexing to the current CPI would eliminate any need for inflation forecasting, assuming the CPI is accepted as the correct measure. Hence, stories depending on imperfect or sluggish forecasting leave unanswered the fundamental question of why wages are normally indexed to the monetary unit rather than to the CPI. Note that even union-sector, escalated contracts use formulas, which often provide less than 100 percent inflation protection.[10]

Despite criticism of the Phillips curve, applied economic forecasters still use nominalist wage equations in their models, which would not make Phillips curve researchers of the 1960s feel uncomfortable.[11] Empirical pragmatists are likely to accept wage nominalism since that is what the data indicate.

PURE ECONOMIC THEORY

Economic theory assumes rationality, which seems at first to rule out nominalism. The initial critique of the Phillips curve, with its sluggish form of wage nominalism, was largely based on the notion that rational wage setting should be in real terms. Hence, any attempt to lower the long-term rate of unemployment through inflation must ultimately fail.

In this view, there will be a "natural" rate of unemployment that can only be varied by inaccurately perceived changes in inflation. Inaccuracies will not persist, so deviations from the natural rate are only temporary.

The Evolution of Macro Theory

Keynes's wage theory was primarily concerned with one form of nominalism—downward nominal wage rigidity based on bargaining preferences and decentralization. The original model lacked a wage equation applicable to the inflation-prone post-World War II era. So Keynesians in the 1960s used a modified Phillips curve as the missing equation. As a result, the critique of Phillips-curve nominalism in the late 1960s and 1970s also became a critique of Keynesian theorizing.

Much of the modern macro debate stems from that criticism: The more one is attracted to the idea that wages and prices are set in real terms, the less of a role there is for monetary policy to affect the real economy. Under rational expectations, only monetary surprises matter for real variables; predictable monetary policy can have no such effect. The logic of rationality pulls toward new classical supply-side models.

Analysts who seek to resurrect Keynes's theory are thus forced to come up with explanations of why workers and employers would behave in a way that seems irrational. Wage nominalism is a key phenomenon that such modern new Keynesians must seek to explain (Ball, Mankiw, and Romer 1988; Barro 1989). So far, they have not succeeded, but neither have their opponents, who are likely to doubt the existence of wage nominalism.

The temptation is great for new Keynesians to select union-style interpersonal and intergroup equity wage comparisons as their explanation of wage nominalism. However, this approach has failed to settle the debate for over half a century. An optimistic assessment of the current gap between the descendants of the classicals and those of the Keynesians is that eventually the clash of ideas will produce a better model (Mankiw 1990). Some claim that the new models are about to explain wage nominalism, even if they haven't quite done so yet (Levine 1989). But this outcome seems unlikely so long as the same stories repeat, albeit with increasing sophistication.

Implicit Contracts

Here, the firm forms a long-duration relationship with its employees, thus moving the labor market away from a spot transactions model. The fact that a "contract" is said to be involved suggests a union-style system of wage setting, even without a union being present. Union contracts had long been seen as a source of wage rigidity prior to the development of implicit contract models, and union workers were known to have longer job spells than nonunion employees. Hence, the use of an implicit contract to serve as an explanation for wage rigidity, and long tenure is hardly surprising. Implicit contracts served as substitutes for explicit (union) contracts in theories of the nonunion sector.

Stories of implicit contracts can be based on various assumptions—that workers are risk averse and that it pays firms to provide their workers with stable employment and wages as a means of income insurance[12] (Baily 1974; Azariadis 1975). The security provided is a benefit, different in kind—but not in concept—from, say, employer-provided life insurance. Employers find the cheapest wage/benefit mix to maximize profits.

Unfortunately, the abstract nature of most implicit contracting models, especially of the risk-aversion variety, makes it difficult to rationalize wage nominalism. Presumably, what workers "should" want is stability of real incomes; implicit contracting should, therefore, stabilize the real wage (Akerlof and Miyazaki 1980). However, escalators are found almost exclusively in the union sector where contracts are explicit.

Implicit contracting can be used to explain why short-term wage changes might not respond much to business-cycle pressures; the wage is more like an ongoing annuity obligation of the firm than a variable current cost. But lack of a real wage guarantee for the flow of payments is a puzzle.[13] Furthermore, implicit contracting runs the danger of being another form of attributing union characteristics to the nonunion sector.[14]

If the real wage is stabilized and if the firm is assumed to make marginal employment decisions based on its current wage, then it is hard to rationalize cyclical unemployment.[15] What tends to emerge instead

is a natural unemployment rate, for example, the "classical" unemployment stories told about Europe in the 1980s. It is difficult to put cyclical unemployment into a model without nominalism combined with firm decision making on employment based on the current nominal wage.

There are ways out of these boxes. For example, nominalism can be rationalized as a way in which workers reveal inflation risk preferences—assumed to be correlated with productivity—to employers (Smith 1989), but the ability to create such stories proves little. It is useful to demonstrate that seemingly anomalous behavior need not be irrational; such demonstrations may prevent economists from denying the very existence of anomalies. But little can then be predicted since anything is possible. In any case, wage nominalism is not well explained by implicit contracts.

Menu Costs

Variants of implicit contracting other than the risk aversion approach do not escape this problem. Nominal wage rigidity can be rationalized by finding reasons why changing wages is costly—that is, menu costs. One version has it that constantly haggling about wages is wasteful and permits alternating bouts of buyer/seller exploitation as business conditions change (Williamson, Wachter, and Harris 1975). Hence, it pays to fix a wage for some time in advance through employer decision making. This is an old idea, which can be found in Hicks (1964 [1932]).

As with other models, there is the suspicion that the menu cost idea arose from union bargaining, where there are obvious menu costs—disagreement can lead to industrial disputes, and both sides have an incentive to reduce the frequency of negotiations. This incentive is the classic explanation of the evolution of multiyear union agreements in the United States, but such stories do not fit well in the nonunion sector.

One response in new Keynesian literature has been to develop reasons why the costs do not have to be large. This approach has been applied mainly to the price side rather than to wages, but presumably a labor market variant could be developed. In the product market version, the firm is assumed only to approximate the profit-maximizing price decision, presumably because of some (minor) menu cost of getting it exactly right. Pricing is thus said to be "near rational." The firm then decides whether to move to the "right" price, based on a private cost/benefit decision.

Even in a partial equilibrium (micro) analysis, it may turn out that the social benefit of adjusting the price is much bigger than the private benefit. Hence, there will be too little price flexibility and much social harm. At the macro level, insufficient price flexibility can translate into a significant real output loss. For example, in a simple quantity theory of money model, output losses are proportional to the excess of prices over their "correct" level. Yet firms will not have sufficient incentives to correct the misalignment (Akerlof and Yellen 1985; Ball, Mankiw, and Romer 1988; Mankiw 1985).

But there is a difficulty in using this argument to explain nominalism. Essentially, the menu-cost/near-rational approach suggests that *if* wage and price setting is nominalist, small menu costs can have big output consequences. But the approach does not by itself explain why wage and price setting starts from a nominalist position. Nothing precludes fixing a wage *formula* rather than a wage *rate*. The wage formula could be an escalator, effectively fixing the real wage instead of the nominal. Nothing precludes setting wages and prices in terms of gold rather than dollars. There may well be menu costs connected with a *shift from* nominalism to a formula or to gold. But menu costs themselves do not explain why nominalism is the starting point.

The Toll Model

Not all stories are modeled on quasi-union processes. There is, for example, the Okun (1981) "toll" model, which focuses on labor turnover costs. Firms pay a toll when they hire someone, which may be thought of as a combination of recruitment, screening, and training costs. Hence, employers limit turnover by offering a wage premium. Low turnover implies an ongoing relationship between employer and employee. Since the toll is linked to the individual worker, the collective aspect is absent from the Okun approach; there is no implicit union bargaining.

Once an Okun-style relationship is established (the "invisible handshake"), firms have an incentive to keep employees content by providing fair treatment. Cutting nominal wages during recessions might be seen as unfair. The motivation for providing fairness, however, provides relatively little guidance as to what fairness might mean. If workers think nominal wage cuts are unfair, employers will tend to avoid them. But where did the notion originate that nominal cuts are unfair? Tolls do not explain wage nominalism; the model simply accommodates a nominalist norm if that is what workers want.

Efficiency Wages

The efficiency wage approach is a special case of the more general instance where variations in price cause variations in quality (Stiglitz 1987). Efficiency wage models assume that by paying a premium in wages (relative to what the worker could earn elsewhere), the firm receives a benefit in the form of higher productivity or in some other cost-lowering behavior such as reduced turnover (Carmichael 1990). Various reasons might be put forward for a productivity gain. For example, workers might shirk in the absence of perfect monitoring by management. But there is still some probability of being caught, and by paying a wage premium, the firm creates an expected penalty for shirking; the worker may lose his/her premium-paying job. Less conventionally, the premium might be viewed as a "gift" to the employee, who reciprocates with a gift of more effort (Akerlof 1982).

Efficiency wage models have a union-sector flavor. Normally, the union sector is viewed as a place in which a wage premium is paid relative to what a classical auction market would suggest. In the union case, the wage premium is due to bargaining power. In the efficiency wage case, it is rationalized on other grounds.

When a time dimension is added to the premium, efficiency wage models tend to link up with implicit contracting. The premium might be offered in the future, that is, higher pay later in the employee's career through an upward-sloping pay schedule tied to seniority. (Linking employee welfare to seniority is very unionesque, of course.) Workers who do not meet appropriate standards can be dismissed before reaching the premium period.

Obviously, all firms cannot pay a premium relative to each other. Presumably, firms array themselves into a wage structure. Those firms that can obtain the most benefit from a premium place themselves at the upper end of the interfirm wage hierarchy. But if the general level of pay is raised, the labor market will not clear. Unemployment, rather than a wage premium, becomes the disciplinary or incentive device (Shapiro and Stiglitz 1984).

Although efficiency wage models may explain involuntary unemployment, they do not explain wage rigidity in the face of *changes* in unemployment over the business cycle. As unemployment rises, firms could (should?) lower their wage premiums since the greater cost of job loss would provide added discipline or added disincentive to quit. Moreover, efficiency wages do not by themselves explain nominalism; workers and firms ought to be making their decisions in real terms. Firms should look at the product wage in setting labor demand; employees should look at real wages offered (and real wages foregone in the event of unemployment) in making labor supply and effort decisions. Nominal wages would then have no particular significance.

Insider-Outsider Models

These presuppose an ongoing employer-employee relationship. Insiders (incumbent workers) defend their wage levels if these are threatened by job seekers who are willing to work for less than the inside wage. Insider resistance creates a static wage rigidity, which explains involuntary unemployment among job seekers.

The linkage between insider-outsider models and union practices is obvious. It is assumed that insiders have the power to make employers heed their wishes. In principle, nonunion insider workers might find ways of imposing costs on management; there is a long history in the personnel literature on the ability of nonunion workers to impose such costs (Mathewson 1969 [1931]). But there is the important question of degree.

Can nonunion insiders really be said to have the same power over employer practices as union insiders? If so, why are there union/nonunion wage premiums? As Ulman (1990) shows, the institutionalist literature has long supposed that unions were more effective at resisting nominal wage cuts than were disgruntled nonunion workers.

There may be a national element at work. Proponents of insider-outsider models have, in fact, tended to come from countries where unions are strong (e.g., Britain and Sweden), and so it may seem natural to them to assume considerable leverage in the hands of insiders over employer wage policy (Lindbeck and Snower 1988). In fact, there is a tendency for insider-outsider analysts to use union bargaining in modeling insider behavior (Carruth and Oswald 1987a).

When combined with old Keynesian notions about decentralized wage determination, insider-outsider models could be used to explain downward nominal wage rigidity (Naish 1989). But this approach leaves open—as did the original Keynesian argument—the question of why workers would worry about their relative wage rather than their real wage. Alternatively, it might be argued that any nominal cut is also a real cut. Yet this will not be true in periods of falling prices, such as the early 1930s.

If workers thought in real terms, resistance to proportionate or less-than-proportionate wage cuts in the face of falling prices should not be observed. The experience of the Great Depression suggests that resistance did occur; nominal industrial wages in the United States were basically unchanged during 1929–30. But thereafter, money wages were cut, and strikes over wage issues began to rise despite adverse cyclical pressures. Nominal manufacturing hourly earnings fell by 22 percent during 1930–33 but remained stable in real terms (U.S. Bureau of the Census 1975).

Limits to Contemporary Economic Theorizing

Recent economic theory involving implicit contracts, efficiency wages, and insider-outsider arguments has pinpointed the paradoxes in labor market behavior. Often, these approaches appear to have been modeled on union behavior. The newer models do offer ways to understand labor market phenomena such as long-duration employment spells, the existence of (static) involuntary unemployment, and the structure of wage premiums.

Despite this very important contribution, the new models have not opened up the "black box" of wage nominalism; there has been little advance beyond the Keynesian decentralized bargaining approach. On the empirical side, contemporary wage equations often look remarkably like Phillips curves, modified to meet the Friedman-Phelps critique.[16] The record suggests that the search for an explanation of wage nominalism needs to move in a new direction.

LESSONS FROM SURVEY RESEARCH

To the extent that economists have looked outside the economics literature to understand wage rigidity, it has often been to the personnel-sociological literature on interfirm wage comparisons (Annable 1977). In short, they have searched for confirmation of the Keynesian notion of wage comparisons and decentralized bargaining. But this effort to confirm one particular theory of asymmetric wage nominalism can hide other explanations, and it sheds little light on the sluggish version of wage nominalism.

There is evidence in the psychological literature that perceived pay inequities can affect productivity, a finding that could support some types of efficiency wage models (Adams and Rosenbaum 1962; Vecchio 1982). Until recently, psychologists did not have an interest in the issues of wage nominalism that bother economists.[17] However, survey evidence shows that a real wage cut accomplished by a nominal wage reduction is seen as much more unfair than an equal real wage cut produced solely by price inflation (Kahneman, Knetsch, and Thaler 1986).[18] This evidence does not involve detailed wage comparison information. Thus, the Keynesian suggestion of the *existence* of asymmetric wage nominalism as a worker feeling is supported, but there is little support here for the idea that

resistance to wage cuts stems from unionesque worker concern about relative wages.

The psychological approach emphasizes the "framing" of questions in forging attitudes. Nominal wage cuts seem to be perceived as losses because something tangible is taken away. Employees may react to such "unfair" nominal takeaways by such behaviors as increased theft (Greenberg 1990). In contrast, real wage erosion via price inflation is subtle; wage increases below the inflation rate may actually be seen as gains (Tversky and Kahneman 1986).

Experiments in which arbitrary endowments are given to individuals suggest a tendency to value one's initial endowment and be less willing to trade it for other goods than economic theory would suggest (Knetsch 1989). If the nominal wage is viewed as such an endowment, the loss of a piece of it might be seen as especially severe. Feeling that a wage cut amounts to taking something away need not depend on information that the resulting wage scale would be less than someone else's. Thus, in the context of an ongoing employment relationship, asymmetric wage nominalism is possible without Keynesian intergroup comparisons. Unfortunately, the psychological literature does not explain why the nominal wage is what workers think they possess rather than the real one.

MONEY AS THE EXPLANATION OF NOMINALISM

As resilient as the decentralized-bargaining approach has been as an explanation of wage nominalism, it is time to question its primacy and look for an alternative. First, there is a need to develop an explanation that is not dependent on unions. Second, there is a need to develop an approach that does not depend on intergroup or interpersonal wage comparisons. Such stories are union-oriented, whether their proponents realize it or not.

There are other phenomena, apart from the determination of across-the-board wage adjustments, that suggest nominalism and that, therefore, require explanation, For example, during periods of high inflation, employees under merit systems often receive individual merit awards along with general pay adjustments. Yet because the proportion of nominal pay adjustment devoted to merit increases shrinks, workers are less motivated by the merit component (Foulkes 1980). Such behavior makes sense only if workers cannot clearly distinguish between real and nominal wages.

Finally, there is much evidence of nominalism outside the labor market. Nominal value comparisons are often made in the popular press on matters varying from government spending to the price of gasoline without recognition of the impact of inflation. Loans are seldom expressed in real terms. Studies of consumer behavior have long reported signs of nominalism in spending habits (Koskela and Sullström 1979; Branson and Klevorick 1969). Government prices, such as fines for violation of the law, are often fixed in nominal terms for long periods. Accounting procedures involving depreciation or inventory depletion often assume zero inflation.

The Adoption of Standards: An Alternative Approach to Nominalism

In pure economic theory, the choice of numeraire is viewed as largely irrelevant since only relative prices matter. With perfect information, one could convert from one numeraire to another, much as one converts from Celsius to Fahrenheit. But, in fact, the choice of measurement standards is quite important. Standards often influence behavior and convey meaning.[19]

Of course, if standards are felt to be grossly deficient, they can be changed. But the costs are often significant, ensuring that changes of standards are not lightly undertaken. Sweden converted from driving on the left to driving on the right in order to be more like its European neighbors. The change required replacing street signs, reconstructing highway on-ramps and off-ramps, and scrapping streetcars (whose doors opened on the wrong side), not to mention changing driving habits. Japan has not made such a switch, even though its export-oriented automobile industry would probably benefit.

Often the change or adjustment of a standard requires a central coordinator, such as the government. Shifting from daylight to standard time and back requires such coordination, even though the need for such an adjustment is dictated by astronomical factors. The coordination requirement arises because the value of having a standard is primarily that everyone uses it, even if it is imperfect. A change to a better standard is difficult unless there is a guarantee that all users will adjust simultaneously.

Where there is no official coordinator, a standard can evolve for reasons of historical accident, such as the use of English for international commerce or the use of the QWERTY keyboard on typewriters and word processors (David 1985). Even if there are theoretically "superior" standards available (Esperanto, the Dvorak keyboard), they are not readily adopted since what makes a standard truly valuable is widespread use. With standards, there are often increasing returns to their adoption; the more people who use them, the more valuable the standards become. Each marginal adopter gains more from the adoption because those who have gone before now use the standard.[20] Once a critical mass of users develops, still more users are attracted, and the standard becomes locked in place.

Money as a Standard

Having a monetary unit as both a numeraire and as a means of exchange is an essential ingredient of modern economies. The alternative barter system entails such heavy transaction costs that exchange would be drastically limited. Designation of a monetary unit is usually the role of an official coordinator, such as a central bank. Wages and other prices are then denominated in the unit. In the context of an ongoing economic relationship (such as employment), they become indexed to that unit. Thus, U.S. wages—indexed to the dollar—rise and fall with the dollar in terms of other currencies or particular commodities. *Money as a standard is the missing link in explaining wage nominalism. Keynesian decentralized bargaining models, implicit contracts, menu costs, and the like are not. If there is a coordination failure surrounding nominalism, it is that government has not promoted indexation.*

There is an analogy between the use of the money standard and Schelling's (1963) concept of a "focal point" in bargaining and other games. Schelling noted that in games where agreements must be reached, there are often environmental clues that allow tacit coordination. If two people are given $100 on condition that they reach an agreement on how to share the money, they usually end up with a 50-50 split. Absent other information, such a solution seems "natural," and any other proposed division is likely to be measured against the 50-50 outcome. Similarly, the money standard is the focal point for wage and price setting; any other approach is on the defensive.[21]

Once adopted, monetary standards are difficult to change. Values are perceived in the standard, even if the standard is an imperfect measure of value over time. Whatever the deficiencies of the dollar as a value standard, it is blessed with the overriding virtue of widespread usage. The CPI is not so blessed. As McCallum (1986) points out:

> In a typical monetary economy...a seller who quotes price in units other than the monetary unit of account forces potential buyers either to convert those prices into money prices or to agree to a bargain expressed in unfamiliar terms. (409)

As in the near-rational story, even if there were significant social benefits in moving away from nominalism, these would not be captured privately by the atypical transactor.[22]

Obviously, a desirable characteristic of a monetary standard is relative stability of its purchasing power over a broad range of goods. By that criterion, some monetary units are better than others, such as the Swiss franc, which is a better currency than the Italian lire. Yet the Swiss franc has not replaced the lire as the measure of value *in Italy*. Unless inflation reaches very high levels and creates great uncertainty, individuals will continue with the local money standard and rely on such devices as periodic renegotiation of contracts to correct inflation-caused errors. Monetary nominalism is a powerful force affecting all markets, not just the labor market.

Use of Escalation

Price indexes and escalation are basically twentieth-century inventions. Although these innovations could, in theory, correct problems of instability in the nominal monetary unit, their adoption is more difficult than economists may recognize. The monetary unit as a standard of value is sticky, just as are many other standards. It might be "better" to specify the terms of labor and other contracts using a CPI standard in place of the dollar. But switching standards is difficult.

In various countries, government collection of data on prices was, in fact, associated with the perception that there were deficiencies in the monetary unit as a numeraire for wages. Typically, early in this century, attempts were made to determine a just wage in terms of the minimum budgets that were needed to maintain a designated living standard. Then it was recognized that changes in prices would affect the nominal sums required. Hence, it was necessary periodically to reprice the budgeted items. In the U.S. case, these developments occurred in association with government arbitration of union-management disputes during World War I (Goldberg and Moye 1985); regular publication of retail price indexes developed from these origins. However, it is a long step from the official measurement of price changes to its regular use in wage setting. Since unions employ research departments and have experts who can understand price indexes and adapt them to wage setting, their partial adoption of indexing is understandable. Even so, it took many years for the idea of escalation to come into use, even in union contracts. Although the CPI had its origins in the World War I period, use of escalation in union agreements is largely a post-World War II phenomenon (Jacoby 1985), and only a minority of union workers have escalators.

In an economy in which most people are on a dollar standard, wage escalation poses a problem for firms who price ahead in nominal dollars. Wage escalation is comparatively rare in the unionized sector of the construction industry since builders often make long-term pricing contracts in nominal terms with their customers. There is considerable literature on the incidence of escalation in union wage contracts (Hendricks and Kahn 1983, 1986); this literature usually depicts escalation as a mechanism for workers to transfer the risks of inflation to their employers, some of whom are better able to bear those risks than others (Card 1986). Unions "pay" for this insurance as part of the negotiating trade-off.

Such views take the nominal dollar standard as the norm for wage and price setting. The dollar standard does pose an inflation risk for workers. Those groups of workers who receive escalator coverage shift this risk (partially) to their nominally pricing employers. But escalator/risk models do not explain why all wage and price contracts are not usually set in real terms (why the CPI standard is not the norm). Since the monetary unit is the norm, departing from the norm poses a risk. If the CPI were the norm, setting wages by the CPI would not create a special risk.

The reason wage nominalism and other forms of nominalism are commonplace is that initial conditions entailed use of a nominal dollar standard long before the CPI was invented. Wage nominalism also predates modern unionism. Given that history, it is now exceedingly difficult to shift to a real standard. When a shift is made for just a few wage-setting units in an otherwise nominal world, complications arise, such as the widening wage premium between escalated union workers and other union and nonunion workers in the 1970s.

Determining the Rate of Inflation

If all wages were to be set in real terms, there would have to be general knowledge of, and agreement about, the rate of inflation. The CPI has been available for many years and provides one measure of the inflation rate. However, other price indexes that can diverge from the CPI are also available. Even within the context of the CPI, there have been methodological controversies.

CPI methodology is sometimes changed, making the seemingly continuous index inconsistent over various periods. For example, during the 1970s, there was significant debate over the treatment of housing costs and the resulting sensitivity of the index to mortgage interest rates (Mitchell 1982). Other issues surrounding the CPI have concerned the

appropriateness of the index's weighting scheme for particular demographic groups and its treatment of the costs of mandated automobile smog and safety equipment. During the Cold War, the U.S. CPI was even attacked by the Soviets at a UN-sponsored meeting as a capitalist tool for exploiting labor (Goldberg and Moye 1985).

Apart from methodological issues, there is the basic fact that few employees understand the CPI or how it might be used. Periodically, the Bureau of Labor Statistics publishes pamphlets explaining the CPI in the most simple terms, illustrating how to calculate the percentage rate of inflation and demonstrating the CPI's use in indexing. The fact that the Bureau feels it necessary regularly to explain the arithmetic of calculating inflation rates from the CPI is itself evidence of public ignorance. Indeed, how many professional economists know more about the intricacies of the CPI than the Laspeyres formula they learned in graduate school?

Purists will argue that setting wages in real terms does not strictly imply their determination in accord with any particular price index. Rather, it means a free auction market for all goods and services (including labor), in which only relative prices matter and money is a veil. Use of the CPI is simply an approximation to this ideal notion. As a practical matter and certainly in any theory of ongoing implicit contracting, wages must be specified in some unit. If that unit is to be real rather than nominal, a price index must be specified. Which (imperfect) index should that be? What would it take to make virtually all wage setters shift from the traditional dollar standard to the CPI standard or to some other price-adjusted standard? Evidently, decades of inflation are not enough to cause such a shift.

FISHER WAS RIGHT

This survey has defined two types of wage nominalism. First, there is the sluggish response of wages to prices represented by a less-than-unity price coefficient in a short-run Phillips curve. Second, there is asymmetric resistance to nominal wage cuts. A variety of explanations of these behaviors has developed, ranging from the old Keynesian notion

of decentralized union bargaining and wage comparisons to modern theories of implicit contracts, efficiency wage models, menu costs, and insider-outsider stories.

When examined closely, most explanations of wage nominalism start with the hidden (nominalist!) assumption that the norm in wage determination is to index wages to the currency unit. While the assumption is valid as a descriptive fact, making the assumption—rather than explaining it—begs the true question. In a nominal standard world, workers will measure fairness in nominal terms. Any theory that leads to the conclusion that employers maximize profits by accommodating worker notions of fairness will thus "explain" wage nominalism. But the challenge is explaining why nominalist behaviors are considered fair.

I argue that nominalism is more than just a labor market phenomenon. Fisher noted back in 1928:

> Money illusion so distorts our view that commodities may seem to be rising or falling when they are substantially stationary, wages may seem to be rising when they are really falling, profits may seem to exist when they are really losses, interest may be believed to be rewarding thrift when no real interest exists, income may seem to be steady when it is unsteady. (175–176)

In short, the denomination of values in monetary terms is not just an accounting convenience. Money is not a veil. Wage setters, union and nonunion—and everyone else—do more than use dollars as units of account; they "think" in dollars and then make rough accommodations when inflation causes problems.

In any case, wage nominalism should not be singled out as more peculiar than nominalism in other facets of economic life. It would be peculiar in a monetary economy if wage nominalism did not exist. Elaborate explanations about wage relativities, decentralized bargaining, risk aversion, menu costs, and the like are at best supplementary explanations. Money as a value standard is the basis of wage (and price) nominalism.

NOTES

An earlier version of this paper was presented at a joint session of the North American Economics and Finance Association and the Industrial Relations Research Association at their annual winter meeting in Washington, DC, December 28, 1990. The author wishes to thank the discussants—Stephen E. Baldwin, William Wascher, and Michael Horrigan—for their helpful comments and suggestions. Helpful comments were also received from Lloyd Ulman and anonymous referees of this journal. Cesar Lopez and Alvin Ng provided useful research assistance in the preparation of this paper. Finally, the UCLA Institute of Industrial Relations provided financial support.

1. I use the term "wage nominalism" instead of "nominal wage rigidity," the more common phrase, because "rigidity" is an overstatement of the phenomenon since it is obvious that nominal wages do change and are sometimes cut. I use "seemingly undue" to refer to what would be expected to occur within a Walrasian auction model of wage setting in which all markets clear and in which wage setters' behavior is determined by real and relative wages. Although Europe has sometimes been depicted as having real rather than nominalist wage setting, the view from Europe was that U.S. wage setting remained nominalist in character (Grubb, Jackman, and Layard 1983).

2. I use the term "asymmetric" since the resistance is to wage cuts, not increases.

3. The U.S. Bureau of Labor Statistics does not take escalation account into account in its published distributions of wage changes. Hence, some workers reported as receiving a zero-wage change actually received some increase. The bureau's decision to make the base case an inflation rate of zero is itself an interesting bit of nominalism.

4. A series published in the *Daily Labor Report* on union settlements focused on the construction industry in the 1960s and provides some evidence of a bulging at zero; unfortunately there were no data for 1962, and no wage decreases were reported in construction during 1959–65. Zero adjustments were reported for 2 percent of the settlements in 1959, 1 percent in 1960, 7 percent in 1961 (the peak), and 3 percent in 1963, 1964, and 1965. Similarly, the Bureau of Labor Statistics reported data on effective wage changes for seven construction trades during 1959–64 in various issues of the *Monthly Labor Review*. No wage decreases were reported. The proportion of zero adjustments fell in the 12–16 percent range.

5. Figures are from the Employment Cost Index (ECI) for wages and salaries. In principle, ECI data could be used to produce distributions of union and nonunion wage changes for the 1980s. Unfortunately, budget restrictions at the Bureau of Labor Statistics have delayed such tabulations.

6. On a total compensation basis, only 1987 exhibited a negative real nonunion pay change.

7. Solow (1980) picked up a similar theme in his presidential address to the American Economic Association. Fairness is but one component of the efficiency wage approach to wage rigidity, as Stiglitz (1986) points out.

8. Much higher unionization rates in Britain than in the United States suggest that British theorists will continue to hang on to the Keynesian tradition of using a union model in the near future (Chick 1983). But even in Britain, questions were raised by the mid-1970s about the importance of union pattern bargaining (Elliot 1976). As British unionization declined (Robinson 1987), observers detected cracks in a seeming real wage rigidity in British union settlements of the 1980s. U.S.-style concession bargaining—with cuts in the nominal wage—was also found in Britain during the 1980s (Carruth and Oswald 1987b).

9. Using an inflation expectations variable, such as the Livingston survey of economists' inflation predictions, will tend to produce a spurious unitary coefficient if both nominal wage change and surveyed price expectations sluggishly adapt to past inflation rates. But sluggish wage nominalism would still exist.

10. Escalated contracts as a group often have lower guaranteed wage increases than nonescalated contracts, suggesting that negotiators project a positive inflation rate when they bargain. However, this projecting behavior cannot explain incomplete escalation, since whatever the guaranteed wage adjustment, partially escalated contracts will produce different real wage increases, depending on the inflation rate.

11. As the U.S. Bureau of Economic Analysis (1986) stated in its write-up of its mid-1980s model, "[A]n augmented 'Phillips-curve' formulation of the wage rate equation is retained despite widespread doubt about the validity of the Phillips curve" (48). Why? Because it seems to work, the Bureau explains.

12. Some form of moral hazard must be called upon to explain why externally provided private unemployment insurance cannot be used for income stabilization, i.e., why the employer must provide it. But the existence of public unemployment insurance should have weakened the demand for implicit contracts if risk aversion was the chief explanation for their existence. Yet the period before the Great Depression (when public unemployment insurance began in the United States) was not noted for long-term employment relationships and job stabilization.

13. As Azariadis and Stiglitz (1983) note with regard to implicit contract models, "[W]age stickiness…is a property of the *real* rather than the nominal wage rate, and it is the latter that is assumed to be rigid in Keynesian macroeconomics" (16). Economists usually associated wage rigidity with unemployment and are prone to look for price versus quantity trade-offs in markets. Yet the implicit contract version of such rigidity need not produce unemployment. In effect, the wage received by workers can be divided conceptually between the market wage and the insurance bonus. The market wage could still clear the labor market in this view, leaving no unemployment (Newbery and Stiglitz 1987). More important, a contract that stabilizes the wage but does not stabilize employment does not stabilize income. Few U.S. employers make employment guarantees; hours and employment are more flexible than wages.

14. It is always a puzzle why, if nonunion employers want to offer union-style contracts to their workers, they don't make these contracts explicit.

15. The *average* firm finds its product wage unchanged if the real wage is fixed, ignoring international complications, although *individual* firms may be adding or subtracting labor as market preferences vary.

16. For example, Blanchard (1988), after reviewing contemporary thinking, produces a wage equation where the log nominal wage is a function of the log expected price level and the log unemployment rate. Thus, the rate of nominal wage inflation is a function of the change in expectations about the price level (which might easily be a function of past price inflation) and the change in the unemployment rate. A 1960s Phillips curve estimator—inevitably a pragmatic individual—would probably not have been too offended by trying the change in unemployment instead of the rate of unemployment in the equation.

17. Some economists have adopted survey methodology to deal with questions related to wage nominalism, e.g., Kaufman (1984) for Britain and Blinder and Choi (1989) for the United States. Economists, however, seem to survey employers rather than employees. There is a psychological literature on how much of a pay increase is "meaningful" to employees (Varadarajan and Futrell 1984; Rambo and Pinto 1989). But psychologically oriented researchers have tended not to deal explicitly with inflation rates in their studies, nor are wage decreases analyzed.

18. McCallum (1986) suggests that to understand the lack of nonunion wage indexing, the reader should ask himself/herself introspectively why he/she does not have an escalated contract. McCallum explains that he has no such contract with his dean because it would be too costly, given the benefit. Curiously, if introspection is to be used to explain nominalism, McCallum does not go further and ask himself why he and his dean begin their contract negotiations on a nominalist basis.

19. For example, consider the selection of a language as a communication standard. While one can convert from one language to another, translation is often inexact. Some languages may be better than others for expressing particular thoughts. When there was a desire in the United States to promulgate the idea that job choice should not be restricted by gender, it was relatively easy in English to desex occupational titles, for example, change fire*man* to fire *fighter*. But in languages where nouns must be either masculine or feminine, the task is more difficult. A *pompier* (fire fighter) in French has a masculine connotation since the word is masculine. Money as a standard seems more akin in practice to language than it does to temperature measurement.

20. Complex models of the economies of adopting standards have been formulated (Farrell and Saloner 1986). These can lead to sluggishness in standard adoption or rapid momentum toward them, depending on assumptions. Since countries do not seem readily to switch numeraire, it appears that the monetary unit standard falls in the former category.

21. I am indebted to an anonymous referee for this analogy.

22. Whether there would be such benefits is beyond the scope of this essay.

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CHAPTER 5

DISMANTLING THE CROSS OF GOLD

ECONOMIC CRISES AND U.S. MONETARY POLICY

How can a U.S. Gold Commission attempt to determine the role of gold in domestic and international systems without there being any foreign participation?

— Audience question at the World Conference on Gold, Rome, Italy, February 1982 (Jastram 1983)

Abstract

The advent of the Euro has put the spotlight on international monetary policy. Could a new world currency be created? Could there be a return to international fixed exchange rates? The history of the American response to the gold standard in its various forms suggests one theme. At key moments during the 20th century, the U.S. chose domestic monetary sovereignty over international obligations. This address traces the history of American attitudes toward gold from the 1890s to the present. That history suggests that creation of any currency system requiring loss of U.S. national monetary sovereignty is most unlikely.

INTRODUCTION

With the creation of the euro on January 1, 1999, much of the European Union's economy was united under a single monetary system with a common central bank. Existing currencies of the member states—such as the French franc, the Italian lire, and the German mark—became mere fractional representations of the euro on that date and will eventually disappear. European monetary unification eliminated the risk of exchange rate fluctuation from cross-border trade and investment flows

This essay originally appeared in *The North American Journal of Economics and Finance* 11, no. 1 (2000): 77–104. © 2000 by Elsevier Science, Inc. All rights reserved. Used by permission of the publisher.

within the euro zone. The development of the euro in the EU raises the question of whether similar currency unification could someday occur within other currency blocs such as NAFTA (or an expanded version of NAFTA if other Latin American countries become part of the agreement).

Indeed, the euro's creation raises an even larger question. Could the European experiment lead to creation of a world currency some time in the 21st century? Given the experience with flexible exchange rates during the 1980s and 1990s, this question is surely worth considering. The U.S. dollar appreciated dramatically for the first half of the 1980s in what seems in retrospect to have been a speculative bubble. At the dollar's peak, the U.S. ran a massive trade deficit and a variety of domestic trade-sensitive industries suffered injuries due to the artificial boost in their cost structure relative to world competition. During the second half of the 1980s, the process unwound as the dollar fell in value. Still more dramatic were the Mexican peso crisis of 1994 and the Asian financial crisis that began in 1997. Both of these crises featured substantial depreciation of the affected countries' currencies and severe macroeconomic effects within those nations. These episodes raised questions about the impact of global financial markets and especially about the policies and authority of the International Monetary Fund (IMF).

Since the early 1970s, the world has not really had a monetary "system." Rather, countries have followed their own approaches to managing their currencies. Some have allowed a relatively free float with little official intervention. Others have tied themselves to the dollar or some other currency or to a basket of currencies. The rigidity of these linkages has varied. Some countries have used currency boards and abandoned independent monetary policy entirely whereas others have followed an active intervention approach. Crawling pegs and varying degrees of managed floating have also been part of the currency mix. The IMF's role in this currency smorgasbord is ambiguous. That institution was created in 1944 to oversee the workings of the Bretton Woods system of fixed exchange rates, arrangements that ended abruptly in 1971. Could the IMF—now an institution without its original mission—become a world central bank

in some new international currency system? Or will it remain a relatively weak institution, constrained by limited resources, complex and arcane procedures, and cumbersome decision making?

The theme of this paper is that to the extent that U.S. assent is needed, major steps toward a world currency or even a fundamental shift towards greater IMF supervisory authority is unlikely. Even a formal NAFTA currency zone is improbable unless the partner countries agree to American-made and American-based monetary policy. American history is at the root of this opinion. IMF weakness—for example—is a product of U.S. history, a history that goes back to the 19th century. Put more directly, the specter of William Jennings Bryan—the unsuccessful Democratic candidate for president in 1896—still haunts the international monetary system and the IMF. Bryan left behind a legacy in the American polity of not subordinating domestic economic needs to the seeming imperatives of the world monetary order. He also left a lingering suspicion of financial institutions that would play a role in future reformulations of the world monetary order.

In tracing this current in American history, five episodes will be discussed. First, there is the 1896 presidential campaign and Bryan's push for free coinage of silver and the abandonment of the gold standard. Second, there is Franklin Roosevelt's temporary abandonment of the gold/dollar linkage in 1933 and his eventual boost in the official gold price the following year. Third, there is the creation of the Bretton Woods system in 1944 with its weak IMF model. Fourth, there is President Nixon's unilateral termination of Bretton Woods in 1971 and his similar termination of the short-lived successor Smithsonian international monetary system. Fifth and finally, there is the push by some elements in the Republican Party to return to gold in the early 1980s, a push that continued to echo in the form of gold proposals by Republican notables such as Steve Forbes and Jack Kemp.

All but one of these episodes—the creation of Bretton Woods—occurred against a backdrop of economic difficulties within the U.S. The 1890s and 1930s were years of economic depression. Nixon's decision occurred after a slowdown in the American economy, engineered to fight inflation, turned into outright recession. A more severe bout of recession and inflation characterized the early 1980s when agitation for a return to gold peaked. Even the Bretton Woods negotiations, which took place during wartime prosperity, occurred at a time when many feared that the U.S. economy would fall back into depression after World War II ended and war-related military expenditures were terminated.

EPISODE I. THE CROSS OF GOLD: 1896

> Upon which side will the Democratic party fight; upon the side of "the idle holders of idle capital" or upon the side of "the struggling masses"?... You come to us and tell us that the great cities are in favor of the gold standard; we reply that the great cities rest upon our broad and fertile prairies. Burn down your cities and leave our farms, and your cities will spring up again as if by magic; but destroy our farms and the grass will grow in the streets of every city in the country.... We will answer their demand for a gold standard by saying to them:... "You shall not press down upon the brow of labor the crown of thorns; you shall not crucify mankind upon a cross of gold."
>
> — William Jennings Bryan at the Democratic Party convention of 1896 (Bryan 1896 [1971], vol. II, 199–206)

American history in the 19th century, and even before, was marked by tensions over the monetary system, banking, and debtors (often agricultural) versus creditors. Shay's rebellion in 1786 through 1787, for example, was a debtors versus creditors clash. President Andrew Jackson's disestablishment of the Second Bank of the U.S. in 1832 ended chances for a nascent central bank to develop for the next eight decades. The Jackson episode set a pattern of suspicion of purported monetary conspiracies—tied to such controversies—that continue to this day (Kazin 1995, 20). In the late 19th century and early 20th century, the alleged conspiracy was often linked to Britain as the center of world finance and/or to Jewish bankers' plots or just to Wall Street. However, the subsequent Panic of 1837 also gave rise to an early movement for fiat or paper currency as opposed to specie-based money (Goodwyn 1978, 13–14).

During the American Civil War, both sides—north and south—abandoned the gold standard and financed the war with paper money

creation. Substantial inflation resulted that tended to reward debtors and penalize creditors. The "greenback" episode of inflation during the war created an inflationist interest group within the (then) large agricultural sector that could draw on earlier Jacksonian-era thinking. Post-Civil War moves to return to orthodox monetary rules were resisted and depicted as conspiratorial.

Nonetheless, the U.S. returned to the gold standard in stages beginning with the official demonetization of silver in 1873 ("The Crime of '73" to opponents). By that time, deflation had already led to a new political movement—the Greenbackers—that favored an end to gold backing and the issuance of paper money in its place. By the 1880s, the Greenback movement had largely dissipated. Other proposals arose uniting agrarian discontent with the money issue. A noteworthy example was the "subtreasury" plan whereby farmers would deposit crops in a federal institution and receive monetary certificates in return (Goodwyn 1978, 109–113). Greenbackism left imprinted on the American polity a significant inflationist component—linked to allegations of international and domestic banking conspiracies—which remained to reignite in the next major economic crisis, the depression of the 1890s.

As the Greenbackers as a political party declined, new agricultural political movements arose. A variety of causes were adopted by these movements as they coalesced into the Populist Party and other entities. Their demands varied, but at times included such items as the adoption of a progressive income tax, government ownership of railroads and telegraph systems, and the eight-hour day. Most important from an international financial perspective was a demand for free coinage of silver at a silver price set high enough to guarantee significant monetary expansion. The new party appealed to segments of both the Republican and Democratic electorate but ultimately—in the candidacy of William Jennings Bryan in 1896—became fused with the Democrats.

A lawyer by training, Bryan was a two-term Nebraska Democratic congressman who had been unsuccessful in a bid for the Senate. After his congressional career ended, he became a journalist for a silverite newspaper but remained active in Democratic politics. Bryan considered

his various political causes to be reflections of "applied Christianity" tied to his fundamentalist religious beliefs (Smith 1975, 17–40). He became converted to the cause of free silver as a congressman, a cause that—among other benefits—produced campaign contributions and support from western silver mining interests (Cherny 1994, 41). However, as a party, the Democrats—under incumbent President Grover Cleveland—remained officially committed to the gold standard. All that changed at the 1896 convention when Bryan, with his "cross of gold speech"—uniting an economic message with Christian imagery—took the nomination. At the time he was only 36 years old, just 1 year above the minimum constitutional requirement for a president.

Bryan recounted the reaction to his famous speech in his memoirs: "I believe it unrivaled in any convention ever held in our country. The audience seemed to rise and sit down as one man. At the close of a sentence, it would rise and shout, and when I began upon another sentence, the room was as still as a church.... The audience acted like a trained choir—in fact, I thought of a choir as I noted how instantaneously and in unison they responded to each point made. The situation was so unique and the experience so unprecedented that I have never expected to witness its counterpart" (Bryan and Bryan 1971 [1925], 115).

By 1896, the depression of the 1890s was well underway and the notion of free silver had been widely popularized by such best sellers as *Coin's Financial School*, published in German, Swedish, and Norwegian for the immigrant audience as well as in English (Harvey 1963 [1894]). The *Coin* book series featured a fictional financial expert who lectured the economic and financial authorities of the day on the virtues of free silver, defeating them all in debate. Thus, the Democratic Party platform, with its accusation that the gold standard had led to "the prostration of industry and impoverishment of the people" was sounding themes familiar to the public of that era.

Bryan's candidacy panicked the business establishment and mobilized it around his Republican opponent, William McKinley. A massive campaign chest by standards of the time was assembled for McKinley and, in the words of Republican Theodore Roosevelt, the party

"advertised McKinley as if he were a patent medicine" (quoted in Cherny 1994, 65). The campaign ultimately focused on the gold/silver issue. In the end, Bryan lost with 46.7 percent of the popular vote. He ran again—unsuccessfully—in 1900 and 1908.

By the late 1890s, however, discovery of gold in South Africa and elsewhere combined with new mining technology had substantially expanded world monetary reserves. The results were recovery and price increases in the U.S. (Friedman and Schwartz 1963, 137). Free silver was no longer the burning issue it had been in 1896. In 1900, the Gold Standard Act officially anointed gold as the American monetary standard. Bryan eventually conceded that the added gold supplies made the silver issue moot and went on to other causes (Cherny 1994, 104–106; Bryan and Bryan, 1971 [1925], 123–124). Former populists, meanwhile—with their movement dissipated—spread out across the political spectrum (Goodwyn 1978, 323–332).

However, Bryan's 1896 candidacy put a stamp on the two major parties that remained at the time of the Great Depression of the 1930s. Republicans afterwards were the party of sound money and high tariffs. Seen from a world perspective, they seemingly supported international cooperation on finance but not on trade. Democrats were the party of cheap money and low tariffs. They seemingly supported international cooperation on trade, but not on finance. There were exceptions in both parties, that is, hard money Democrats and silverite Republicans. But the dominant money and trade tendencies remained.

The trade and money tendencies—although apparently contradictory if it is assumed that these sprung from a cooperative internationalist perspective—were not contradictory from a domestic viewpoint. After the Civil War, Democrats were the representatives of the south, with its agricultural export interests. As an importer (from the north or abroad) of manufactured goods, the virtues of low tariffs seemed obvious. Republicans, representing modern northern interests of import-competing manufacturing, could see great benefits from protection. But as representatives of financial and banking interests, Republicans opposed inflation—hence their sound money theme. Cheap money, on the other hand, appealed to debtors, especially farmers, and could be a rallying theme for Democrats during Hard Times. These domestic focuses with regard to international issues continued through the 20th century.

EPISODE II. TARNISHING THE CROSS OF GOLD: 1933 TO 1934

> Our dollar is now altogether too greatly influenced by the accidents of international trade, by the internal policies of other nations and by political disturbance in other continents. Therefore, the United States must take firmly in its own hands the control of the gold value of our dollar. This is necessary in order to prevent dollar disturbances from swinging us away from our ultimate goal, namely, the continued recovery of our commodity prices.
>
> — President Franklin D. Roosevelt, radio speech of October 22, 1933 (Paris 1938, 168–169)

If the Depression of the 1890s was capable of pushing the monetary issue to the fore in the U.S., one could easily predict that the same pressures would arise during the Great Depression of the 1930s. Indeed, one of the oddest episodes in American monetary history took place during the initial term of Franklin Roosevelt as the newly elected president sought remedies for the Depression. Roosevelt had been governor of New York state before his election as president. And during his governorship, he made the acquaintance of George F. Warren, a professor of agricultural economics at Cornell University. Warren's agricultural background seemed an unlikely one for an advisor on issues in international finance. Yet he became a key player in determining Roosevelt's gold policy and, thereby, exchange rate policy. The upshot of Warren's advice was the setting of the gold price at an official $35 per ounce (up from a prior $20.67). The $35 price remained until President Nixon closed the gold window in 1971.

In many respects, the most complete documentation of the Warren role appeared in a folksy and lengthy tribute to him in the Cornell journal *Farm Economics* written by some colleagues, including Frank A. Pearson, Warren's co-author of the (Depression-era) influential book *Gold and Prices*, an update of an earlier work (Pearson, Myers, and Gans 1957;

Warren and Pearson 1935). The *Farm Economics* article has serious shortcomings analytically as it attempts to defend Warren's linkage of gold and farm prices against the views of those officials in the Roosevelt administration in the 1930s who had disagreed. But what the article does succeed in doing is portraying the general confusion in the New Deal administration about both international and domestic monetary policy.

Because inflation became the bugaboo of the post-World War II period, it may seem difficult to imagine that a major thrust in New Deal policy—although not one supported by all New Deal advisors and officials by any means—was to promote inflation. The slide into the Great Depression was accompanied by a drop in retail prices of about one-fourth (1929–1933). Thus, it was thought that pushing prices back up to the pre-Depression level (referred to as "reflation") would stimulate the economy. Exactly how this was to be done seemed less important than just doing it.

One of the major pieces of legislation of the early New Deal, the National Industrial Recovery Act (NIRA), sought to push up prices and wages through a cartelization of American industry. Firms would be given confidence through market and pricing agreements whereas the antitrust laws would be suspended. They would then share their good fortune with workers through agreed-upon minimum wages and collective bargaining. Various agricultural price support programs based on a combination of mandatory reduced supply and government purchases would raise farm prices. Later in the New Deal, after the NIRA and other early legislation had been declared unconstitutional by the Supreme Court, there came the Wagner Act promoting collective bargaining, new agricultural price-support programs, and the Fair Labor Standards Act (establishing a mandated federal minimum wage).

There were various views about how price reflation would rid the country of the Depression. Perhaps the most supportable notion was that of Yale economist Irving Fisher, who connected deflation with a transfer from debtor to creditor, resulting in potential bankruptcy of the former and economic disruption. If the transfer were nullified through reflation, the damage would be undone. Note, however, that Fisher—who is identified with the American version of the quantity theory of money—would not have viewed nonmonetary means of creating reflation (cartelization, farm programs, collective bargaining) as the equivalent of monetary expansion in its effect. He was a longtime supporter of "stabilized money," the notion that "the general level of prices" should be stabilized in nominal terms, using open-market operations and other central bank controls (Fisher 1935, 391–398; see also Fisher 1969 [1911]). But thinking in the Roosevelt administration on how reflation should be accomplished was fuzzy. One means of price raising was seemingly as good as another, so far as the president was concerned.

And there was confusion surrounding wages versus prices. Wage reflation was rationalized as a boost to worker purchasing power that would stimulate consumption (Mitchell 1985). Unclear was the distinction between the nominal and real wage. Raising both wages and prices by the same amount would not change the real wage. Raising prices less than wages would squeeze profits. Raising prices more than wages would reduce the real wage, presumably hurting consumption. Ultimately, it seemed that upward movements in nominal values were seen as Good Things generally but particular prices (farm prices and wages) were especially targeted.

Warren's historical research convinced him that using gold to back the currency did not produce price stability. Gold was a commodity whose relative price could vary based on demand and supply, just as could the price of any other commodity. Thus, as he saw it, the fall in American farm prices in nominal dollar terms after 1929 was really the mirror image of a rise in demand for gold (Warren and Pearson 1935, 79). Reflation of nominal dollar-denominated prices could be achieved by raising the official price of gold. Although a modern economist might have seen raising the price of gold as largely a devaluation of the dollar relative to other gold-backed currencies, Warren saw it as something more fundamental.

Even in a completely closed economy, Warren would have prescribed a change in the official gold price as a remedy to counteract deflation. Fisher, and most modern economists, however, would emphasize the

quantity of money. Raising the gold price in a multicountry international gold standard would produce the usual price-raising effects associated with devaluation. If a higher price of gold led to a gold inflow from new mining or other sources, the rules of the game under a gold standard would produce an easing of monetary policy. Some of the resulting demand might then spill over into price increases of nontraded goods, apart from the immediate devaluation effect.

In contrast, Warren's theory seemed to be that gold had special power as a numeraire. Prices were "really" set in gold, using the "dollar" as an arbitrary representation of a quantity of gold. "The given amount of the money commodity is given a money name so that confusion arises. For example, 23.22 grains of gold were formerly named a dollar. But this was merely a duplicate name for 23.22 grains of gold. Naming it a dollar did not change the fact any more than naming 2000 pounds a ton changes it" (Warren and Pearson 1935, 81). In Warren's view the numeraire property could be used to raise nominal prices even in the absence of the devaluation or monetary expansion effects. Indeed, he explicitly doubted that a monetary expansion with an unchanged price of gold could have much impact on the price level (Warren and Pearson 1935, 148). "The mere issuance of paper money or expansion of credit, so long as each dollar is kept at par (with gold), will have very little influence on prices" (Warren to Roosevelt, April 24, 1933; in Nixon 1969, 69).

As an agricultural economist concerned especially about the increase in real farm debt that the deflation of the Depression had created, Warren had a special interest in raising farm prices relative to other prices. The numeraire approach, on its face, would not seem to accomplish that end because presumably all prices should rise by the same percentage amount in dollars if the numeraire price were changed. But Warren divided prices into "slow-moving charges" and "fast-moving commodity prices" (Warren and Pearson 1935, 195). The slow-moving charges—including wages—were sticky downward so that the Depression had resulted in a price ratio of fast-to-slow that was "abnormal." Raising the gold price would presumably right the imbalance. (In contrast, Fisher's notion of having a stabilized currency in terms of purchasing power involved targeting a broad price index rather than one based on a limited number of farm commodities.)

Warren's division of prices into slow- and fast-moving underlines a theoretical inconsistency in his approach to price setting. *If gold were the true numeraire—and if price setters really "thought" in gold—then sticky prices should be sticky in gold, not in the nominal currency unit.* By setting the stickiness in dollars rather than gold, Warren was implicitly contradicting the key role—as he saw it—of gold as the numeraire. The monetary unit could not be a mere veil for gold if a significant subset of prices were sticky in dollars. Fisherian "money illusion"—which is what Warren's sticky prices amount to—is based on the notion that the currency unit—not gold—is the key standard of value (Mitchell 1993; Fisher 1928).

In general, what one finds in Warren is a mélange of theories in vogue at the time so that it is difficult to specify exactly how his gold/prices "model" worked. Indeed, the concept of a model specifying various relationships, particularly in the macro arena, was in an embryonic state at the time. Warren can at most be criticized for being no more precise than other economists of that era. Economic reasoning in the 1930s tended to be bivariate and uni-causal. The modern reader would find that Warren understates the role that the real side of the economy plays in prices, understates the effect of monetary policy independent from gold, and understates the effect gold prices have through devaluation against other countries on the gold standard. Yet the word must be "understate" because Warren gave some weight to all of these factors. But—absent a rigorous model—the amount of weight he gave is hard to quantify.

Warren (and Pearson) produced innumerable charts and tables, some purportedly going back to ancient times, presenting an air of scholarship and expertise that undoubtedly was very impressive to Roosevelt. Moreover, Warren had a definite plan and belief. And his belief tied neatly into the inflationist elements within the Democratic Party that had remained active since the days of William Jennings Bryan. Finally, Warren had another connection with the Roosevelt administration;

Henry Morgenthau Jr., Roosevelt's Secretary of the Treasury, had been a student of Warren's at Cornell.

By way of contrast, Roosevelt was receiving contradictory and confusing advice from all quarters—academic, business, financial, and political. There were "sound money" men who thought the gold price was untouchable and who fretted about inflation at the bottom of an incredible Depression. For some of these advisors, maintaining the gold price was a matter of morality. In part the morality issue related to "gold clauses" that were inserted in many commercial and financial agreements specifying payment in gold equivalents. These clauses had developed in the aftermath of the Civil War departure from gold and the inflation of that earlier era (Friedman and Schwartz 1963, 71). Ignoring the sound money school, Roosevelt followed Warren's prescription. He severed the dollar from gold, thus ending the effort to maintain the price at $20.67 per ounce. And he used various means to bid up the gold price.

But by late 1933 he was being warned that his ad hoc gold policy was creating market uncertainties. John Maynard Keynes published an open letter to Roosevelt at the end of the year (Keynes 1933). Shortly before the letter was published, he passed the contents along to the president through Felix Frankfurter, a Harvard professor and New Deal advisor (and later a Supreme Court Justice) (Schlesinger 1960, 404–406). Keynes made three points.

First, he was critical of the notion of raising prices as an end in itself, although acknowledging that price increases would help debtors. Keynes argued that expanding aggregate demand through government deficit spending would stimulate real output and—as a byproduct—raise prices. Price increases were thus to be viewed as mere symptoms of recovery. But absent a demand expansion, pushing up prices through supply-side measures such as NIRA codes or limits on agricultural production would impede recovery. Second, a Fisher-type monetary expansion would not by itself stimulate the economy; such an expansion was necessary but only to accommodate the added demand that deficit spending would bring (see Sumner 1999). Third, Roosevelt's ad hoc policy of bidding up the gold price without an announced objective—"a gold standard on the booze"—was causing unhelpful speculation and was bad for business confidence. True, gold price increases would raise prices of tradable goods through the devaluation effect. But it was foolish to believe that apart from that effect, there was some "mathematical relation" between gold and prices. Essentially, Keynes's letter was a slam at relying on monetarism, whether that of Irving Fisher or of the free-silver forces in Congress. And it was also a slam at Warren's gold policy.

Although unhappy with the president's approach to gold, Keynes agreed with Roosevelt's view that maintaining a traditional gold standard was not the right objective of economic policy. "The currency and exchange policy of a country," Keynes said, "should be entirely subservient to the aim of raising output and employment." Thus, he did not recommend setting a new gold price fixed for all time. The ideal policy would be for the major countries to agree on "exchange stabilization." But Keynes did not think such an international agreement was feasible as of late 1933. As a second best, therefore, Roosevelt should set an official gold price—not forever—but for the time being, thus ending uncertainty and speculation. With that done, the president could turn his attention to appropriate stimulatory fiscal policy and end the excessive focus of his administration on gold and prices.

It is not clear that Keynes's advice had a direct influence on Roosevelt. There had been discussion in the White House before his letter that the gold price issue was causing uncertainty and needed to be resolved (FDR library, OF 21, box 1 [Bruère memo]). Roosevelt met with Keynes 5 months after the letter appeared but gave conflicting accounts of his impressions of that meeting (Schlesinger 1960, 404–406). Nonetheless, a new gold price was officially re-established by Roosevelt on January 31, 1934, at $35 per ounce under the enabling statute—the Gold Reserve Act of 1934. This price increase was rather arbitrary and was essentially decided by the president. Indeed, the draft of the public announcement shows blanks where the gold price appeared in the final version—apparently filled in as $35 in Roosevelt's hand (FDR library, OF 229, box 1; Morgenthau diary, reel 1, book 1). The new gold price was not necessarily intended to be permanently fixed; the statute permitted changes

based on the president's judgment concerning economic conditions—a feature in line with Keynes's advice.

There were some technical issues regarding Federal Reserve regulations entailed in the president's action. But these were worked out with the Fed (FDR library, OF 90, box 1). However, the president was soon challenged in court. At issue were the Act's provisions that voided gold clauses in private and official contracts and forbid private gold holdings. For example, one suit demanded redemption of a $20 gold certificate in gold. Eventually, the Act was tested before the U.S. Supreme Court. On behalf of the New Deal administration, the attorney general argued that "gold is not an ordinary commodity. It is a thing apart, and upon it rests, under our form of civilization, the whole structure of our finance and the welfare of our people. Gold is affected with a public interest. These gold contracts, therefore deal with the very essence of sovereignty, for they require that the Government must surrender that sovereignty" (FDR library, OF 229, box 7). By a narrow 5–4 decision, the Court upheld the president's action.

Some key figures of the era heralded the Court's decision. Financier Bernard Baruch wired Roosevelt's assistant that "the President has won a sweeping victory. Please tell him this delights me more than I can express. It will serve notice upon those that had their doubts and fears and will make his critics and enemies respect his judgment and courage. Because of the removal of this uncertainty I expect to see business resume its advance. I join you in the happiness which you must all feel." Similar sentiments were expressed by James Rand, president of Remington Rand, who headed a business and agricultural group—the Committee for the Nation—that supported the gold price hike on Warren-type grounds (FDR library, OF 229, box 7). Irving Fisher and Warren wanted a still-higher gold price (FDR library, OF 229, box 4; Morgenthau diary, reel 1, book 1). But many disapproved of the president's action and made their objections known publicly, including former president Herbert Hoover.

Roosevelt had the precedent of the British abandonment of the gold standard in 1931 on his side. Not only had Britain abandoned gold, its action had triggered speculation at the time that the U.S. would soon do so. As a result, gold flowed out of the U.S., arguably impeding the Federal Reserve from pursuing an antidepression monetary policy (Wheelock 1998, 135–140), Roosevelt might have reasoned that setting a new, higher gold price would cause a reverse flow of gold into the U.S. (which it did), perhaps stimulating monetary expansion. In any event, he cited "the adverse effect of depreciated foreign currencies" (which certainly included the British pound) in his proclamation.

Had the Supreme Court ruled against Roosevelt, rumors in the press had it that he would have disobeyed the Court, provoking a constitutional crisis. There was said to be a contingent speech prepared announcing the president's refusal to obey in the event of an adverse Court decision. Roosevelt himself cited from a contingent speech in a letter to Joseph P. Kennedy although the specific citation does not deal with disobedience per se. It did express a personal, if not legal, contempt for the conservative Court (FDR library, OF 90, box 1).

Warren's influence on Roosevelt was sufficiently great that senators debating the Gold Reserve Act of 1934 seemed dubious about Warren's denial that he had written the bill (U.S. Congress 1934a, 262–263). If it is remarkable that Warren had the influence he did on Roosevelt, it is no less remarkable that there were major figures content to wallow in depression in pursuit of the morality of sound money—especially after money had become so unexpectedly more sound due to massive deflation. Some commentators have expressed skepticism that Roosevelt actually believed in Warren's theory. "What carried the day with Roosevelt," Arthur Schlesinger wrote, "was not the conviction that the Warren theory was right so much as the fact that Warren offered a program of action when the demand for action seemed irresistible." At one point Roosevelt defended his gold policy to administration officials as necessary to avoid "an agrarian revolution" (Schlesinger 1958, 240, 242). When an academic advisor submitted his resignation in protest of the president's gold policy, Roosevelt denounced him for "do-nothing advice" and for placing "a former artificial gold standard among nations above human suffering and

the crying needs of your own country" (Roosevelt to O. M. W. Sprague, November 22, 1933; in Nixon 1969, 496–497).

Much of the early gold-related tension among Roosevelt's economic advisors was brought to a head by the London Economic Conference that began in June 1933. This conference, originally planned under the Hoover administration, had been viewed by President Hoover as a way of coaxing countries that had abandoned the gold standard back on to it. But under Roosevelt the conference was the scene of internecine battles over monetary and other issues among various presidential advisors—although Roosevelt had made it clear before the conference that the gold standard was to be abandoned.

In preconference planning, the U.S. seemed to favor maintaining some type of stability between the French franc, the British pound, and the U.S. dollar—with some use of gold. At a press conference, the president speculated about an "imaginary coin...fixed in terms of gold or gold and silver" in which international contracts might be drawn up but against which other currencies would fluctuate. Generally, the U.S. position seemed to center on vague notions of central bank cooperation combined with more international monetary discretion (FDR library, OF 17, Warburg memo). However, eventually the conference ended in acrimony after publication of a statement by Roosevelt denouncing "old fetishes of so-called international bankers" and indicating that freer trade and dealing with "fundamental economic ills" was the proper goal of the conference (Schlesinger 1958, 200–232; press conference of June 7, 1933, and radiogram of Roosevelt of July 2, 1933, in Nixon 1969, 207–210, 268–270).

Given the earlier history of silver agitation, it is not surprising that the ideas of the free silver movement of the 1890s still echoed through Congress as the New Deal administration first took office. Numerous bills were submitted to Congress relating to silver. Demagogic priest Father Charles Coughlin, whose radio broadcasts were increasingly influential, became shriller and shriller in denouncing the gold standard and pushing for silver. Various members of the Senate and House pushed (unsuccessfully) for Roosevelt to send Coughlin to the London conference (Nixon 1969, 221, 225–226). At the time, Coughlin supported Roosevelt, praising

him in religious terms reminiscent of William Jennings Bryan's cross of gold allusion. "For more than two and one-half years Christ attempted to convert the money-changers of Jerusalem. But eventually he was forced to drive them from the Temple after having upset their tables. I am confident that this very day Mr. Roosevelt is prepared to do likewise. The international bankers are on their way out" (Coughlin 1933, 37). And testifying before Congress in favor of the administration's Gold Reserve Act of 1934, Coughlin declared that "I know if we patiently and intelligently follow Mr. Roosevelt he is not going to make a mistake, because God Almighty is directing him" (U.S. Congress 1934b, 69).

And, indeed, the historical/religious links to Bryan were evident. Bryan's former congressional assistant, Edgar Howard, by then a member of congress himself, said that "the heavy cross of gold has been lifted from the backs of American citizens" by Roosevelt's action (Cherny 1994, 184–185). If that were not tribute enough to Bryan, in 1934, Congress passed the Silver Purchase Act mandating large purchases of silver at high prices. But silver played only a minor role in the monetary system thereafter. The Act mainly produced a large silver hoard at the Treasury and a substantial subsidy to silver mining interests until the silver policy was officially ended in the early 1960s. In contrast, Roosevelt's gold policy in the form of the $35 per ounce price became enshrined in the later Bretton Woods agreement of 1944 and eventually became a major component of the collapse of that agreement in 1971.

There remains the issue of what impact the gold revaluation actually had on U.S. price levels. Warren's colleagues, in their tribute to him, make much of the fact that an index of crop prices generally rose by about the same percentage as the gold price from early 1933 to early 1934 (when the $35 per ounce price was established). But their chart shows crop prices started to rise before gold prices were allowed to fluctuate, rising much faster than gold for several months, falling back and then rising again (Pearson, Myers, and Gans 1957). They give no credit for the farm price rise to the partial recovery of the overall economy. Nor do they credit the New Deal's various agricultural price support programs, notably the Agricultural Adjustment Act of 1933, that limited

acreage and constrained supply at a time of rising demand. In wheat, for example, the U.S. coordinated domestic output reductions with an international agreement among major wheat producers to limit world supply (Johnson 1934). The restoration of confidence in the banking system, including an initial program of deposit insurance, occurred simultaneously with the upward push on the gold price (Friedman and Schwartz 1963, 434–442). If panic and a worsening Depression had brought commodity prices down, surely an end to the panic and an economic expansion would be expected to raise them.

During 1933, gold had become yet another commodity whose price the government was trying to raise, albeit one with monetary significance. That its price rose during that period at about the same rate as the prices of selected other commodities that were targeted should be no surprise. The value of the dollar relative to other currencies and the impact that world market prices may have had is similarly neglected by Warren's colleagues in their paean to him. However, the drop in the value of the U.S. dollar relative to other major currencies during the gold price episode was quite dramatic. From March 1933 to March 1934, the British pound rose 48 percent relative to the dollar. The dollar price of the Italian lire, German mark, and Dutch florin rose by two-thirds. And the Japanese yen rose by 41 percent. Mexico remained tied to the U.S. dollar but the Canadian dollar rose against its American counterpart by 20 percent.

As contemporary critics noted, the price index that Warren (and Pearson) used to show the correlation of commodity prices with gold was weighted towards international commodities; prices of other commodities (which they omitted) did not rise as fast (Hardy 1935, 32–33). Moreover, the behavior of particular international commodity prices needs to be considered in evaluating the simple devaluation effect. Coffee prices are an example. Brazil's currency appreciated only 12 percent relative to the dollar from March 1933 to March 1934. During that period, coffee prices rose by about a third, substantially less than the gold price increase. Thereafter, coffee prices fell, and by the end of the year coffee prices (relative to March 1933) had risen by an amount even closer to

the modest Brazilian appreciation. Of course, the U.S. had no farm programs designed to raise coffee prices because little coffee is grown in the U.S. Without the effect of sizable dollar devaluation, and without targeted U.S. agricultural policies aimed at pushing up the price, coffee prices rose much less than other commodities that were so targeted.

Overall consumer prices as measured by the National Industrial Conference Board rose by just under 9 percent during March 1933–March 1934. Devaluation of the dollar produced a considerable gold inflow to the U.S. that lasted through the rest of the decade, suggesting dollar undervaluation. But there was no automatic expansion of the money supply as required under the rules of the game of a classical gold standard. Various devices were used to sterilize the gold inflow (Paris 1938, 107–108).

Thus, the sad aspect of the Roosevelt gold episode was that after staking out monetary sovereignty for the U.S., the New Deal did not undertake sufficient monetary stimulus. After 1934, Roosevelt lost interest in gold and monetary affairs, leaving such matters to the inflation-fearing Federal Reserve. Those academics concerned about monetary matters became preoccupied with schemes such as "100% money" (Phillips 1995). The policy void was filled only by calls for monetary stimulus from the silverites, marginal social movements of the era, and the increasingly disreputable Father Coughlin. Coughlin lamented that Roosevelt had not—after all—chased the money changers from the temple. Instead, he said, the New Deal had "entrenched [the] power and increased profits of the international manipulators" (Coughlin 1936, 179). He teamed up with other populist radicals in an abortive third-party campaign to unseat Roosevelt in the 1936 elections and was later taken off the air by the Church as his broadcasts became increasingly anti-Semitic (Kazin 1995, 116–133; Bennett 1969; Brinkley 1982).

If anything, the 1933 through 1934 increase in the price of gold was a notable experiment in the social sciences, something usually difficult to perform in macroeconomics. The episode showed that although currencies such as the dollar had been "backed" by gold, people no longer "thought" in gold-denominated prices. Fisher's money illusion meant that the true numeraire for most prices—those not set in world

markets—was the dollar, not gold. Indeed, ultimately it is some version of Fisher's money illusion, that is, a stickiness of domestic prices and wages in nominal terms, that allows devaluations to have real effects.

Perhaps the best indication of the problem of attributing great potency to gold as numeraire came in the recession-within-the-depression of 1937–38. The Warren explanation for the fall in commodity prices in the early 1930s hinged in part on an increased demand for gold triggered by the British abandonment of the gold standard in 1931. Speculator believed the dollar would be next, and so shifted to gold at the official $20.67 price then prevailing. The result was gold exports from the U.S. But in 1937–38, with the gold price fixed at $35 per ounce, gold continued to flow into the U.S. The Warren prediction should have been a rise in commodity prices due to a gold "surplus." Gold was being exchanged for dollars because world demand was shifting toward the dollar and out of gold. Yet prices *fell* in 1937–38, just as they had in the early 1930s, in seeming contravention of the Warren "theory." Price movements in 1937–38 suggest that apart from dollar devaluation and farm programs, the business cycle (i.e., sensitivity of U.S. commodity prices to real economic activity) pushed up prices during the 1933–34 gold episode. Similarly, the business cycle pushed them down in the later economic decline.

The Roosevelt episode also demonstrated the American domestic focus in matters that might otherwise seem to be international from the viewpoint of foreign observers. Roosevelt would not let international monetary considerations trump U.S. internal economic policy needs, however poorly those domestic needs were understood. On the other hand, when it came to trade, Roosevelt was committed to lowering the (Republican) Smoot-Hawley tariff of 1930 because he thought doing so would stimulate the American economy. Roosevelt had been elected to do something about the Great Depression *in the U.S.A.* If that meant abandoning international gold standard commitments, so be it. On that score, William Jennings Bryan would have been proud. But that Roosevelt—having established independence—did not follow up in 1934 and thereafter with an aggressive monetary stimulus would surely have been a disappointment to Bryan.

EPISODE III. POLISHING THE CROSS OF GOLD: 1944

> [T]he whole thing is nothing less than a plot to give Great Britain control of our gold stock and unload upon the United States an immense volume of debts owed by Britain to other countries.
>
> — Congressman Frederick C. Smith commenting on an early version of a plan for the IMF (Van Dormael 1978, 111)

Only one episode in this saga of American insistence on domestic monetary sovereignty took place against a background of (wartime) prosperity: the Bretton Woods agreement of 1944. However, the legacy of William Jennings Bryan remained strong and influenced the outcome even then. Although the general spirit of the times was to create international institutions such as the United Nations to ensure against yet another world war, the U.S. was not about to surrender its monetary sovereignty. Public suspicion of international financial conspiracies (particularly British) remained strong. And a belief was widespread that the U.S. could easily tumble back into depression once wartime demand pressure ceased. No president or congress would have consented to turning monetary sovereignty over to some external institution because such sovereignty might be needed should a postwar domestic downturn of the economy develop. A weak International Monetary Fund was the result.

When options for international monetary policy are considered in debates today, the basic choice is always between floating and fixed exchange rates (in their various forms). That was not the case in 1944, however. Floating rates were associated with breakdowns of the world economic order, that is, depressions and wars. Thus, the issue—as the delegates at Bretton Woods saw it—was *what kind* of fixed exchange rate system was to be created, not *whether* some version of fixed exchange rates should be adopted.

And the choices were constrained. Thanks to the devaluation of the dollar during 1933 through 1934 and a wave of flight capital from Europe as World War II neared, there had been a "golden avalanche" into the U.S. In 1932, the U.S. had about 36 percent of the world's monetary gold. By 1938, the proportion was 57 percent and in 1947, 71 percent (Triffin 1960, 72–73). With so much of the world's monetary

gold in official U.S. hands, returning to a classical gold standard was not feasible, even apart from U.S. concerns about monetary sovereignty. A classical gold standard requires that all participants—not just one—have substantial gold reserves to back their currencies.

The Bretton Woods system seemed to stem initially from an attempt to counter Nazi propaganda early in World War II about a "New Order" of currency exchange. It also arose from negotiations between the U.S. and the British about the terms of the Lend-Lease plan, the program by which Britain received military supplies before the formal entry of the U.S. into the war. British thinking, guided by John Maynard Keynes, evolved toward a world central bank or "clearing union" that could essentially issue a form of currency called "bancor." The new currency would be created as an overdraft credit whose value would be defined in gold terms. Countries with significant surpluses or deficits would be penalized. Under certain circumstances, countries could be required by the new bank to appreciate or depreciate their currencies (Van Dormael 1978, 1–39).

Far less well known than Keynes at the time was U.S. Department of Treasury official Harry Dexter White, a former academic who was influential with Treasury Secretary Morgenthau. His alternative plan—whose genesis may have reached back even before the attack on Pearl Harbor—was a more modest fund, more a constrained financial intermediary than a central bank. Treasury Secretary Morgenthau was initially interested in exploring the option of creating a world currency, but White persuaded him that such a radical step was undesirable. White's plan in early versions would have created a gold-defined unit of account—called "unitas." But unlike Keynes's bancor, unitas would not be a currency (Mikesell 1994, 2–13). White's proposal—as the Americans saw it—focused more "discipline" on countries running balance of payments deficits than did the Keynes plan (Black 1991, 37–38).

The White fund as it evolved could take resources obtained from depositing countries and lend to others. But it could not create money. Its internal governance would ensure the U.S. a substantial role in decision making. The dollar would play the role of a key currency. And given the large size of the U.S. gold stock, the dollar would be exchangeable for

gold at Roosevelt's $35 per ounce price. White viewed gold as nothing special—just another commodity—but concluded that financial tradition required its continued use (Van Dormael 1978, 45–47). Indeed, in the view of key Treasury officials the gold standard had been a major cause of the Great Depression and there was no desire to repeat that experience (Black 1991, 98–100). World cooperation though the IMF concerning exchange rates rather than any type of gold-based discipline was seen as the key to postwar economic success.

Attempts by Keynes to elevate White's unitas into a bancor-type world currency were rejected by the U.S. (Mikesell 1994, 25). Eventually even the unitas as an accounting unit was dropped from the plan. Word of the discussions between the U.S. and Britain had leaked out by 1943. The Keynes plan was deemed unacceptable by many elements of the American financial community. A *Wall Street Journal* editorial declared that Keynes's "proposed bank would possess powers to control the world over" (quoted in Van Dormael 1978, 93). If anything, the U.S. financial community preferred a return to the gold standard. Given wartime prosperity, silverites and other such groups were no longer prominent in opposing gold. However, traditional American suspicion of international banking conspiracies and of British finance tended to unite Wall Street and Main Street in opposition to anything so bold as the Keynes plan. The White plan in contrast was intended to assuage such sentiments by making the proposal as unthreatening as possible. It also suggested, somewhat disingenuously, that postwar aid to war-ravaged Europe would be handled by external institutions (the World Bank and the IMF), not by new loans and grants from the U.S.

Obtaining Congressional assent to the Bretton Woods plan—even with its weak IMF—became a major challenge in both public and Congressional relations. And White was not always the diplomat he should have been in dealing with Congress (Black 1991, 49). The Roosevelt administration carefully monitored press reaction to the proposals (FDR library, OF 229, box 8). Symbolic gestures, such as putting the IMF headquarters in the U.S. rather than London, became important (Van Dormael 1978, 206–207). Placing it in Washington,

rather than New York, further suggested that the IMF would be subservient to American political rather than financial interests. Thus, in many respects the spirit of William Jennings Bryan hung over Bretton Woods. Any international institution that appeared able to limit American domestic economic policy was simply unacceptable.

In the end, Congress approved the legislation enabling U.S. participation in the Bretton Woods plan. Passage has been credited to a combination of Democratic "party loyalty" and appeals to the notion that passing the bill would help ensure future world peace (Mikesell 1994, 44). The IMF was ultimately acceptable to Congress because it was not a central bank, because the American dollar was to be the key currency, and because the U.S. was to have the largest IMF quota. The largest quota in turn meant that the U.S. would have the most votes of any country in IMF deliberations. Maintaining the gold parity at $35 per ounce was acceptable because the U.S. had more than enough gold to do so for the foreseeable future. White made proposals to enhance the authority of the IMF on Keynesian lines after Congress acted but these were not adopted (Boughton 1998, 41).

EPISODE IV. ABANDONING THE CROSS OF GOLD: 1971

> In recent weeks, the speculators have been waging an all-out war on the American dollar. The strength of a nation's currency is based on the strength of that nation's economy, and the American economy is by far the strongest in the world. Accordingly, I have directed the Secretary of the Treasury to defend the dollar against the speculators. I directed Secretary Connally to suspend temporarily the convertibility of the dollar into gold.... Now this will not win us any friends among the international money traders. But our primary concern is with the American workers, and with their competition abroad.
>
> — President Richard Nixon, TV speech of August 15, 1971
> (*New York Times*, August 16, 1971, p. 14)

Well into the 1950s, the U.S. could operate under the Bretton Woods framework without much constraint. At the established initial exchange rate parities, there was a "dollar shortage" that many believed was

somehow permanent. Indeed, the explanations concerning the chronic American export surplus then were similar to what commentators today often say about Japan and its seemingly inherent trade surplus (Kindleberger 1950). And as is typical of fixed rate regimes, the pressure to abide by the rules of the game under Bretton Woods was asymmetrical. Countries whose currencies were in excess demand did not have to follow the rule requiring monetary expansion and stimulus. Those nations whose currencies were in excess supply, however, had either to run down reserves or incur increasing liabilities if they failed to follow austerity policies. During the Korean War, of course, the U.S. economy had plenty of internal stimulus. But the post-Korean War U.S. economy was soft and featured recessions in 1953 through 1954, 1957 through 1958, and—much to the regret of then-presidential candidate Richard Nixon—in 1960 through 1961.

Nixon's very narrow loss to John F. Kennedy in 1960 against the background of recession was something he would not forget when he eventually became president in 1969 (Gowa 1983, 68). Meanwhile, Kennedy—who had campaigned on a platform of getting the economy moving again and who was surrounded by Keynesian advisors—faced a dilemma on taking office. The dollar shortage had shifted to dollar surplus, putting downward pressure on the dollar exchange rate that—under Bretton Woods—had to be resisted. At the same time, the U.S. gold stock was dwindling, raising the ratio of potential international dollar claims to American gold reserves. The rules of the game called for American policy austerity, not something compatible with Kennedy administration—or (later) Johnson administration—goals.

Moreover, as Robert Triffin warned, if the U.S. did succeed in reducing its balance of payments deficit, world reserves would not keep pace with the growth of trade and investment. The result, as he saw it, would be an international liquidity crisis. On the other hand, if dollars kept flowing abroad, the ability of the U.S. to maintain gold at $35 per ounce would be increasingly questioned by speculators. As a solution, Triffin proposed turning the IMF into a true central bank capable of issuing a reserve medium that could take the place of gold and dollars.

But his notion, a variant on the Keynes plan rejected by the U.S. at Bretton Woods, remained unacceptable to the U.S. A world central bank and a world reserve medium would constrain American monetary sovereignty. Perhaps in tacit recognition of this fact, Triffin focused on an intermediate goal that in hindsight seems very prescient: a monetary and ultimately currency union within Europe (Triffin 1960, 102–120, 141–144, 151–157).

Because a major reformulation of the international monetary system was not part of the American agenda, a variety of ad hoc policies were implemented under Presidents Kennedy and Johnson. These policies were attempts to make domestic expansion compatible with maintaining the dollar exchange rate against foreign currencies. They included attempting to change the yield spread between long and short interest rates ("operation twist"), an interest equalization tax on foreign borrowing in the U.S. market, voluntary—and later mandatory—capital controls, and other measures. However, such policy instruments ultimately could not cope with the pressures created by the dramatic expansion of the American economy in the second half of the 1960s under the pressure of the Vietnam War. At its peak, the boom brought the U.S. unemployment rate down to 3.5 percent, a level not seen since the Korean War.

By early 1968, there was intense speculation that the U.S. would not hold the gold price at $35 per ounce. In March 1968, a hasty agreement separated the gold regime into two markets. There would be a private market, in which the gold price would clear at whatever level was determined by supply and demand, and an official market in which gold would be exchanged by central banks at the old $35 Roosevelt/Bretton Woods price. Whatever reluctance foreign central banks had concerning this arrangement was overcome through a threat by the Fed to close the gold window entirely if they did not go along (Gowa 1983, 53).

Once the two-tier gold system was put in place, the way was clear for gold "to go the way of wampum, clam shells, copper and silver, and to become a commodity" as Charles P. Kindleberger put it shortly thereafter (statement in U.S. Congress 1970, 17). Despite this colorful phraseology, the two-tier system was not seen as a precursor to the

end of Bretton Woods as a whole because there was no reason a fixed exchange rate system needed gold to operate. Special Drawing Rights (SDRs), new monetary units created by the IMF and first distributed in 1970, were thought to be an eventual substitute for gold as a reserve. As far as the two-tier system itself, it appeared to be a great success; a report by the Joint Economic Committee of Congress found no reason to raise the official price of gold. Instead, the report suggested that the IMF should formally modify its procedures to accommodate the two-tier system (U.S. Congress 1969). The two-tier approach had ostensibly fixed the immediate gold problem and would, it was thought, allow international reformers a chance to update the 1944 model in an orderly and deliberative way.

The problem was that although there was discussion within the Nixon administration about the dollar/gold problem—and, notably, a report by a task force headed by Treasury official Paul Volcker on the subject—there was not enough pressure to do anything about it absent a crisis (Nixon archives, Council of Economic Advisors collection, Volcker report, box 15; Gowa 1983, 129–130). The ad hoc measures taken during the Kennedy/Johnson period were viewed as undesirable by the report's authors (Nixon archives, McCracken collection, boxes 87, 106). But so, too, was allowing external monetary considerations to impede domestic or foreign policy objectives. The Volcker report emphasized the SDR as a possible intermediate solution to the need for world reserves. In the long term, however, there should be a "fundamental, but evolutionary, change in the existing system." Eventually, countries might put their official dollar balances, SDRs, and gold reserves into a "reserve settlement account" at the IMF (just as they had once put dollars and gold into the IMF to establish their quotas).

These new accounts would "consolidate the different types of assets... in one more or less homogeneous asset, thus adding to the stability of the system and further circumscribing the role of gold." Such ideas had been circulating since the mid-1960s (Black 1991, 83–84). Exchange rates would be realigned to give the U.S. increased competitiveness. The U.S. would somehow solve its inflation problems. When all of these goals were

accomplished, the U.S. would have "restore[d] a considerable flexibility for domestic economic policy and for meeting...shifting security requirements." Controls on capital movements would then be unnecessary.

However, the Volcker report indicated that if a crisis arose before such fundamental changes could resolve the gold/dollar problem, the U.S. might be forced to suspend gold convertibility or raise the price of gold. Trying to negotiate a solution retaining convertibility could be difficult given European—especially French—attitudes. Raising the gold price was seen as undesirable because it would just postpone any progress to fundamental reform. In time there would arise a new gold/dollar problem at the higher gold price. A small hike in the gold price would amount to a devaluation of the dollar (assuming other countries agreed) and soon the Triffin-type problems of the 1960s would recur. World gold reserves would become inadequate and there would again be the instability inherent in a system of two reserve mediums. A large increase in the gold price would "flood the world with liquidity" and thus contribute to inflation.

The Volcker report—in short—depicted two paths toward a change in the world monetary order. Both would downgrade the role of gold. The preferred option would be orderly planning for monetary reform in which the IMF would be modified through creation of the new reserve settlement accounts. But if time ran out before such an option could be negotiated, the U.S. would end gold convertibility rather than give gold a new injection of life through an official price hike.

Various advantages of ending gold convertibility were described in the Volcker report, although it argued that the U.S. would need the cover of a crisis to take such action. There would be no more runs on the American gold stock by foreign central banks, absent convertibility. And surplus countries would be left with two choices. They could passively accumulate more and more unwanted dollar reserves. Or they could revalue their exchange rates sufficiently to eliminate the surpluses.

In theory, the two-tier gold arrangements allowed time for orderly planning toward a solution along the lines envisioned in the Volcker report. But there was no orderly planning once the two-tier system was

in place under either Johnson or Nixon. Conflicting positions within the federal bureaucracy produced a stalemate. As one observer characterized it: "[T]he Treasury [was] staid and mired in detail; the Council of Economic Advisors [was] excessively abstract and intellectual; the Federal Reserve [was] overly preoccupied with price stability; and the Department of State [was] simply ineffective" (Gowa 1983, 106, footnote 29). Whenever the issue came down to domestic considerations versus Bretton Woods obligations, the president made clear his priorities. He cautioned an incoming member of the Council of Economic Advisors about the need to keep the unemployment rate low in 1969 (Stein 1994, 135). "I hear all about the balance of payments and nobody worries about 8 percent unemployment," President Nixon said angrily at a 1970 meeting in his office (Gowa 1983, 135, footnote 16).

Domestic developments soon forced a decision. Responding to inflation concerns in 1969, the Fed attempted to cool the overheated U.S. economy just enough to engender an oft-sought, but difficult-to-achieve, soft landing. However, an outright recession developed and by 1970 through 1971, monetary policy had shifted toward stimulus. Low interest rates produced a short-term capital outflow, swelling unwanted dollar reserves at foreign central banks. The net export balance went into deficit. By the spring of 1971, central banks were rebelling against American pressure that they hold more dollars and that they refrain from converting dollars to gold (even though entitled under the two-tier system to do so). Pressures within the Federal Reserve to raise interest rates were resisted by Fed Chairman Arthur Burns. Burns explicitly cited the perverse raising of interest rates in 1931 by the Fed in response to the gold outflow of that era. The Fed, in his view, had choked off a potential recovery in 1931; he was not about to commit the same mistake four decades later (Wheelock 1998, 161–164).

Although the spring crisis was resolved, it was clear that a new one could easily arise. The chair of the Council of Economic Advisors requested a legal opinion from the Department of Justice as to whether the gold price could be increased from $35 per ounce. He was told that such a price change could be made only with congressional approval, something unlikely to be obtained quickly in response to a crisis.

Moreover, congressional action was itself constrained by U.S. obligations under Bretton Woods to maintain the $35 price. On the other hand, he was also told that there was no legal bar to suspending gold convertibility (Nixon archives, Council of Economic Advisors collection, box 167).

The crisis that would force a decision came in August 1971. In early August, there were already pressures from Congress to close the gold window. The British sought guarantees from the U.S. about the value of their dollar reserves (Gowa 1983, 149). Top officials in the Nixon administration were summoned to a hasty conference at Camp David and a new policy course was charted. Fed Chair Burns opposed abandoning gold but Treasury Secretary Connally convinced the president to do just that. After the conference, the president went on national television on August 15, 1971, to announce his decisions (Gowa 1983, 150–170; Stein 1994, 165–166).

As a speech, President Nixon's address was remarkable for what it was and what it was not. It was not especially well delivered, particularly at the outset. The speech lacked the gripping oratory of William Jennings Bryan with his invocation of a cross of gold. President Nixon fumbled with his notes, stumbled on his words, wiped his brow, and seemed nervous. He began with discussion of obscure tax legislation. But then he got to the heart of the matter and announced a wage-price freeze to be followed by controls, the closing of the gold window (and an end to Bretton Woods), and a 10 percent import surcharge (tariff).

The Nixon speech was surely the high point of post-World War II presidential economic decision making. Although the ghost of William Jennings Bryan had pushed Roosevelt to break from gold and ultimately raise its price, gold still retained a formal role in U.S. monetary affairs after 1934. That role was rejuvenated in 1944 under Bretton Woods at the $35 Roosevelt price. It is often said that only Nixon, a Republican anti-communist, could open relations with mainland China. Similarly, only that same Republican president—a representative of the party of sound money in 1896—could finally and completely kill the gold standard in 1971. Even if Bryan were not impressed with Nixon's oratorical skills, he surely would have been cheered by the content of Nixon's speech.

In theory, 1971 could have been a turning point at which the IMF—after an exchange rate realignment—was substantially strengthened along Keynes-Triffin lines and converted into a true central bank. However, there was no official U.S. interest in doing any such thing. Only one thing was made clear by the U.S.: gold would not play a significant role in whatever new arrangements might be formulated, especially if Treasury Secretary Connally had anything to do with it (Nixon archives, McCracken collection, box 10). The U.S. did agree to the Smithsonian accord of December 1971—a "Bretton Woods lite" arrangement with new fixed exchange rates and no real role for gold. With Smithsonian in place, the IMF and its key members seemed anxious to formulate more elaborate institutions. But official U.S. policy was one of benign neglect despite rhetoric about fundamental reform and despite some internal concerns about a lack of policy (Nixon archives, Stein collection, box 172). Eventually, a U.S. "plan" was formulated—mainly so that it could be said there was one. The plan was published to prove that it existed in the 1973 *Economic Report of the President* (U.S. President 1973, 160–174; Nixon archives, Stein collection, box 2). But no steps were taken to implement the plan.

It is clear that the U.S. did not want to return to any sort of gold regime. But why didn't the U.S. move toward a new set of international arrangements without gold, but with an enhanced IMF? What about the "fundamental, but evolutionary, changes" that the 1969 Volcker report had discussed? The answer seems clear. In 1971, the U.S. had—as in 1933— declared its monetary independence; it was not interested in designing new constraints on its own domestic policy (Nixon archives, Stein collection, box 1). Moreover, in a twist of fate related to President Nixon's earlier political career, the IMF may not have been President Nixon's favorite institution.

Harry Dexter White, the American who negotiated the Bretton Woods agreement, became a member of the board of directors of the IMF in 1948. But shortly thereafter, White was accused of being a Soviet agent. His case became intertwined with the Whittaker Chambers–Alger Hiss espionage investigation, a major event in Nixon's political rise. At a congressional hearing, White—after resigning abruptly from

his IMF post—was grilled by then-Congressman Nixon. White denied the accusations against him and was never formally charged. He died of a heart attack just after the hearing. Thereafter, White's family continued his defense posthumously. But in 1953—when Nixon was vice president—White was declared to have been "a Russian spy" by U.S. Attorney General Herbert Brownell (Rees 1953, 11–16, 377–390, 406–426; White 1956). Other Treasury and IMF officials linked to White were also accused and resigned. Some fled to Canada or China in the aftermath of the charges (Mikesell 1994, 55–57). Whether Nixon recalled this episode in 1971 through 1973 is unknown.

As noted, fixed exchange rates were temporarily resurrected by the Smithsonian agreement of late 1971, which established new parities (and a lower-valued dollar). However, the president remained focused on domestic matters even after the Smithsonian accord. In June 1972, when exchange rates were discussed at a meeting with White House Chief of Staff H. R. Haldeman, Nixon's attitude was forever immortalized on one of the Watergate tapes: "I don't give a [expletive deleted] about the lira" (quoted in Gowa 1983, 136–137, footnote 19). Not surprisingly, therefore, when the dollar came under pressure in early 1973, the Smithsonian accord was unilaterally terminated by the U.S. Since then, the international monetary "system" has been one in which countries do what they like or what they can. And official gold reserves sit in vaults waiting for someone to figure out what should be done with them.

EPISODE V. LONGING FOR THE CROSS OF GOLD: 1980 TO 1982 AND BEYOND

> Certain ideas enraptured Kemp, regardless of voter reaction. Iowa politicians still shake their heads about his insistence in the '88 campaign on trying to convince the state's farmers that their economic troubles could be traced to President Franklin D. Roosevelt's decision to abandon the gold standard.
>
> — Newspaper profile of Jack Kemp, unsuccessful candidate for the Republican presidential nomination in 1988 and vice presidential candidate in 1996 (Shogan 1999, A5)

The fact that Franklin Roosevelt and Richard Nixon both abandoned the gold standard during their administrations suggests a bipartisan tendency in the 20th century to favor domestic economic concerns over international "obligations." William Jennings Bryan, it seems, ran for president in the wrong century. However, there remain those in American political circles that still long for gold, mainly in certain sectors of the Republican Party. Yet even the American "gold bugs" see the issue largely in a domestic context, that is, as a way of limiting the American government by instituting "a wholly 'denationalized' money whose supply and value are at long last free from the arbitrary manipulations of a nonmarket monopolist" (Salerno 1982). The implications of such plans for international monetary affairs are not of major concern to these individuals.

In 1980, toward the end of the Carter administration, Republican Senator Jesse Helms managed to insert a provision in an IMF funding bill that required creation of a commission to study a return to the gold standard. Carter signed the bill but never appointed the commission. A deal had been cut with Congress that Carter would not do so unless he won the 1980 election. Thus, it was left to the Reagan administration to appoint the membership. In the background was double-digit inflation and rising unemployment—so-called "stagflation"—leading to complaints about monetary policy (Schwartz 1982, 538–540). And Reagan was believed to have a "sympathetic" attitude toward resumption of a gold standard (Stein 1994, 298, 302).

A sixteen-member commission was established chaired by Treasury Secretary Donald T. Regan. Included in the membership were three senators, four congressional representatives, two members of the President's Council of Economic Advisors (along with a former member), three members of the Federal Reserve Board, and four nongovernment representatives. The Gold Commission ultimately reported in March 1982, after what were apparently contentious deliberations. Its official report, with only 2 to 3 members formally submitting a full minority report, is peppered with dissents on various points. A sense of discord is evident from the introduction:

> Though it became apparent to us during our deliberations that we would not be able to achieve a unanimous set of recommendations, on some issues, it was possible to form majorities. Even so, a majority vote in favor of a specific recommendation did not signify that all so voting had the same purposes and/or interpretations in mind. Moreover, if each of us had been reporting singly instead of as one of a body of colleagues, individual members would not necessarily have expressed themselves in precisely the way the recommendations are stated. (U.S. Commission on the Role of Gold in the Domestic and International Monetary Systems 1982, vol. 1, p. 3)

Consistency was not always a virtue. Senator Roger Jepsen, a member of the commission, submitted reports to the Joint Economic Committee favorable to the gold standard along with a statement that he "favor[ed] the remonetization of gold" (U.S. Congress 1981, v). Yet when the official report was issued, he did not join with the commission minority that favored a return to a gold standard. Still, it was difficult to determine who favored what in the "majority" report. In contrast, the minority report (described below) was clear about what it favored.

Some of the seeming support for gold in Congress from Republicans may have stemmed from the loose association of "supply-side economics"—which became associated with the Reagan tax cuts—and the gold standard. Arthur Laffer, whose namesake Laffer curve purported to show how tax cuts would generate increased federal revenue, was viewed as a supply-side guru at the time. And Laffer favored a version of the gold standard. The Laffer plan—submitted as a bill by the progenitor of the Gold Commission, Senator Jesse Helms—was a complicated scheme of gold reserves, formulas adjusting monetary policy to those reserves, and trigger points. Under the plan, the price of gold would change if reserves reached too-low or too-high levels, despite the formula (U.S. Congress 1980, 90–100).

Laffer attempted to tie his plan to proposals made in 1972 by Federal Reserve Chair Paul Volcker when Volcker served in the Nixon administration. It seems, however, that the Volcker proposals were not intended to impose strict limits on U.S. monetary policy, unlike the Laffer plan. They dealt with international reserves generally—not gold alone. Read in the context of the U.S. as a deficit country in the early 1970s, the Volcker proposals were designed to push the burden of adjustment equally to

surplus countries such as Japan (Cooper 1982, 33–34; U.S. President 1973, 160–174). And as noted earlier, they seemed designed more to prove that the U.S. had a world monetary policy than as a plan to be seriously pursued.

The minority Gold Commission report ran about 300 pages, substantially longer than the "majority" report (U.S. Commission 1982, vol. II; Paul and Lehrman 1982). Much of it consists of a monetary history of the U.S. going back to colonial times, debating such points as whether there really was a depression in the 1870s or 1890s and expressing indignation at Franklin Roosevelt's gold policy. Under the heading of "The Moral Argument for Gold," the minority declared that "gold is honest money because it is impossible for governments to create it" (U.S. Commission 1982, vol. II, p. 248). Thus, the Federal Reserve and its paper money should be phased out. Something along the lines of the depression-era "100% money" plan should be implemented (U.S. Commission 1982, 262–263; Phillips 1995). The complete package of reforms would take 3 years to accomplish and perhaps a one-year recession would result. But "the following 10 years would be ones of prosperity, high real economic growth, and low levels of unemployment" (U.S. Commission 1982, 27). Were the U.S. to do this, other countries would likely do the same, producing a world of fixed exchange rates and laisser-faire as a byproduct (U.S. Commission 1982, 268).

In contrast to this gold-based nirvana, an impending economic apocalypse—absent such reform—is suggested by the commission's minority report through references to the rise of Hitler and Mao Tse Tung. But a strange glimmer of hope is held out: "With the collapse of the official money and the official economy, the underground economy might be able to shift to using silver and gold coins, and thus some ascending reforms might be possible" (U.S. Commission 1982, 257). In short, the minority envisioned a very dark short-term cloud but with a possible long-term silver (and gold) lining.

Basically, the commission's "majority" supported only the issuance of various decorative gold coins by the Treasury but not as legal tender. This proposal was actually viewed as a victory by the most ardent gold

proponent on the commission, Rep. Ron Paul, later the Libertarian Party presidential candidate in 1988. In his view, having weight-standardized gold coins available as an alternative to official money would lead to the replacement of official paper money by market forces (Schwartz 1982, 545–546).

The commission majority opposed issuance of gold-backed money or bonds. It thought the Treasury and the Federal Reserve should study valuing U.S. gold reserves at the actual market price, although no clear reason why this mattered was articulated. And it rejected conducting open market operations in gold. In a final blow to the gold advocates, the commission took a traditional monetarist view, suggesting that the Fed should consider a rule requiring a steady growth of the money supply. The commission concluded that "under present circumstances, restoring a gold standard does not appear to be a fruitful method for dealing with the continuing problem of inflation" (U.S. Commission 1982, 17).

Although much of the majority report focused on purely domestic implications of the gold standard, there was some recognition of the international implications:

> Most of us believe that even if other countries with substantial gold stocks and the major gold-producing countries were to agree with us on a restoration of an international gold standard, the United States—and the system as a whole—would confront an as yet unsolved problem of the vast quantity of dollars world-wide with potential claims to gold convertibility. We are not in fact aware of international interest in restoring a gold standard. Indeed, a number of foreign officials have expressed negative views towards a gold standard. (U.S. Commission 1982, 19)

Yet despite this international reference, the Gold Commission report was essentially inward looking, by now an American tradition whenever gold is discussed. The free silverites of the Bryan era wanted to end the gold standard to follow an aggressive inflationist domestic agenda. Roosevelt went off gold for domestic reasons, ignoring foreign concerns as expressed at the London Economic Conference. The IMF was made a weak institution at the behest of the U.S. that did not want a true international central bank that could exercise any constraint on U.S. domestic policy. Nixon acted unilaterally, closing the gold window and ending Bretton Woods, to pursue domestic objectives in an unfettered

fashion. Even the monetarist members of the Gold Commission could not entertain gearing monetary policy to gold inflows and outflows. There was no guarantee that such flows would produce the kind, passive, constant money-supply growth advocated by academic monetarists such as Milton Friedman.

Of course, there is never a final word on the gold standard. When it was announced in 1999 that international economist Robert A. Mundell had won the Nobel Prize for his work on exchange rates and macroeconomic policy, there was a flurry of interest in gold in the press. Mundell was depicted as a gold standard advocate, albeit one whose views were out of the mainstream. In the early 1980s, when inflation and stagflation were perceived as the world's major problem, Mundell favored a return to gold (Mundell 1982). However, whatever his views may have been in the past, by the late 1990s Mundell did not believe that the old gold standard would be resurrected. That is, he did not foresee an international monetary system in which all major currencies were pegged to gold. Rather he argued that central banks might come to use the market price of gold as an index of inflation expectations (Mundell 1997).

Some in the Republican Party have kept faith with William McKinley's belief in sound money. But today, most economists think of the gold standard as just one form of a fixed exchange rate system. However, for a gold standard to be a fixed exchange rate system, at least two countries must participate. If only the U.S. were to return to gold, the dollar and gold would be tied to one another and would together float against other currencies. Advocates of a unilateral U.S. return to gold either believe that other countries would follow the U.S. lead—and there is no sign of any such thing—or they see some other virtue in gold. Perhaps like George Warren, they see a quasi-magical power in gold solely as a numeraire. Or like Arthur Laffer, they think that gold flows would be a useful guide to monetary policy.

CONCLUSIONS

The ultimate triumph of William Jennings Bryan's battle against gold could be seen 100 years after the defeat of his first campaign for the presidency. Whereas incumbent Bill Clinton spoke of a "bridge to the 21st century" in the 1996 presidential campaign, candidates such as Steve Forbes and Jack Kemp tried to interest the public in returning to the gold standard. But such a monetary bridge to the 19th century simply did not resonate with the electorate. It just sounded odd. A candidate might as well have campaigned for a return to the bustle and the buggy. By the 2000 campaign, Kemp had dropped out of presidential politics. And Steve Forbes's gold position had been condensed into a single sentence in his campaign book, easily lost in a sea of other agenda items (Forbes 1999, 177).

Radical monetary conspiracy types in the U.S. are now more likely to have a right/anarchist tilt in place of Bryan's left/statist leanings. Where once the alleged conspiracy was that the U.S. went *on* the gold standard, now the conspiracy is that the country was illegitimately taken *off* gold. From this belief, extremist groups sometimes justify actions such as passing bad checks—because official money isn't "real" anymore. That some of the wilder groups are found in states such as Idaho and Montana—the old silver producing areas that were once home to free-silver agitation—is surely no coincidence. Apart from its odd domestic legacy, Bryan's posthumous victory over gold has international monetary significance. It means that the U.S. will not support an IMF that resembles a true central bank, let alone some sort of international euro-type currency. Even the constrained SDR that the IMF was allowed to create remains a minor element in world reserves and no distribution of SDRs has occurred since 1981.

An international version of the euro administered by a true world central bank would end domestic monetary sovereignty of the U.S. A strong IMF would infringe on that sovereignty. Such infringement is something an American president and congress today would be no more likely to accept today than they were in 1944 when Bretton Woods was negotiated. Of course, countries such as Argentina remain free to tie themselves to the dollar unilaterally if they wish to do so. One can even imagine the development of a future NAFTA monetary zone based on the U.S. dollar. But such a development could occur only if the partner countries agreed to accept a monetary policy "made in the U.S.A." and based on American domestic considerations.

ACKNOWLEDGMENT

D. J. B. Mitchell is Ho-su Wu Professor at the Anderson Graduate School of Management and School of Public Policy and Social Research, UCLA. Presidential address for the North American Economics and Finance Association Boston, MA, January 8, 2000. The author thanks Prof. Mahmood A. Zaidi of the University of Minnesota for comments on an earlier version of this paper. He also thanks Diana Borowik of the Nixon Presidential Materials staff at the National Archives at College Park, MD, and Harold Teichman of the Franklin D. Roosevelt Library in Hyde Park, NY, for their assistance in providing relevant materials. Prof. Scott Sumner of Bentley College made helpful comments on the section of the paper dealing with George Warren.

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